

78155



Class _____ *No.* _____

IN EXCHANGE

279



Digitized by the Internet Archive
in 2014

ALBANY MEDICAL ANNALS

Journal of the Alumni Association of the
Albany Medical College

VOLUME XXXI

*Ασφαλές καὶ ἔμπεδον ἔστω το σὸν ἔδος. Ἐκ σκοτοῦ μὲν
ἔξαγε φάος, ἐκ δὲ πάθους ἀναψυχήν.*



ALBANY, N. Y.
PRESS OF THE BRANDOW PRINTING CO.
1910

ALUMNI COMMITTEE

ALBERT VANDER VEER, M. D.

WILLIS G. TUCKER, M. D.

ANDREW MACFARLANE, M. D.

EDITED BY

J. MONTGOMERY MOSHER, M. D.

Editors of the Following Departments

ALBERT VANDER VEER, M. D., AND ARTHUR W. ELTING, M. D.—*Surgery*

SAMUEL B. WARD, M. D., AND CHARLES K. WINNE, JR., M. D.—*Medicine*

JAMES P. BOYD, M. D., AND H. JUDSON LIPES, M. D.—*Obstetrics*

HENRY HUN, M. D.—*Neurology*

FREDERIC C. CURTIS, M. D., AND HARRY W. CAREY, M. D.—*Dermatology*

G. ALDER BLUMER, M. D.—*Psychiatry*

CHARLES M. CULVER, M. D.—*Ophthalmology*

CLEMENT F. THEISEN, M. D.—*Laryngology, Rhinology and Otology*

HENRY L. K. SHAW, M. D.—*Pædiatrics*

JOSEPH D. CRAIG, M. D.—*Public Health*

ARTHUR J. BEDELL, M. D.—*Medical News*

SPENCER L. DAWES, M. D.—*Materia Medica and Therapeutics*

ARTHUR T. LAIRD, M. D.—*Tuberculosis*

MISS ADA BUNNELL, B. L. S.—*The New York State Medical Library*

JOHN A. SAMPSON, M. D.—*Gynecology*

THOMAS ORDWAY, M. D.—*Pathology and Bacteriology*

ALBANY MEDICAL ANNALS

Original Communications

HEREDO-TUBERCULOSIS.

*Address delivered at the Third Annual Meeting of the Third District Branch
of the New York State Society, held at Hudson, N. Y.,
October, 5, 1909.*

By J. L. ARCHAMBAULT, M. D.,

Cohoes, N. Y.

Gentlemen of the Third District:

Bestowed deservedly or not, by promotion as much as by election, possibly by election because of an established custom of promotion, the distinction of being your presiding officer at this third Annual Meeting of our District Branch, is my privilege to day. This privilege imposes upon me a pleasure and a penalty; the pleasure of thanking you most heartily for the favor conferred and highly appreciated; the penalty of not neglecting to conform with the traditional usage of delivering a presidential address and to thus open this session, the program of which will invite and sustain your attention by its many attractive and practical features.

Still it is noteworthy that not a number in it is devoted to tuberculosis, which seems almost like a prevarication when we stop to think that this year deserves to be called in this country, more particularly in this Empire State, the crusade year against the White Plague. Thus has it impressed me that to redeem this meeting it should be the duty of the President to take up the subject. Undecided as to the aspect, not rehearsed and therefore not deprived of interest, under which he could treat the question, he was fortunate enough, through some recent reading, to come across a particular point which, if confirmed by further researches, would open anew the apparently settled question that tuberculosis is exclusively *acquired* and not *inherited*.

That we should not yet give up the idea that there is such a thing as *Heredo-Tuberculosis*; in other words, that tuberculosis may be a *congenital* disease, an *intra-partum* as well as an *extra-partum* infection, appears to be fairly well substantiated by the

MAR 3- 1911

72155

findings of Hans Rietschel¹ in three cases, one of which is personal, and which he published this year. His article has just been analyzed by R. Romme² in *La Presse Médicale* of Paris. Instructive as the considerations of Rietschel and the comments of Romme have proved to me, so I trust they will be of interest to you.

The case of Rietschel reads as follows:

A woman aged thirty, in advanced phthisis, gives birth, at seven months, in the clinic at Dresden, to a living child. This child, immediately after the umbilical cord is cut off, is wrapped in a sheet and placed in a bed distant from that of his mother. Fifteen minutes later, his toilet is proceeded with, and half an hour afterward, without having been taken back to his mother, the child is transferred to an infant-home, where he is spoon-fed with woman's milk. After a few days, the mother succumbs to her phthisis. The child's growth is rather satisfactory during the first weeks, but thereafter he begins to wither away and dies at the age of five months. An autopsy discloses a generalized tuberculosis with advanced tuberculous foci in almost every organ.

Has this child succumbed to a congenital, to an hereditary tuberculosis? Or has he contracted his tuberculosis in the asylum where, however, all possible measures had been taken to save him from the Koch bacillus infection?

To aid in solving this problem, Rietschel quotes two other recent observations of Sitzenfray, where things ran a similar course: mothers in ultimate stage of tuberculosis, children taken away from their mothers from the very moment of their birth, and victims of tuberculosis, respectively at three and six months, though every effort had been made to guard them against the eventuality of a tuberculous infection. Of these three cases apparently conducted with the scrupulousness of a true experimentation, the histological and bacteriological examination of the placenta, however, was made only in one case; this placenta was distinctly found to be the seat of tuberculous lesions.

At first thought, it seems impossible not to assign the death of these children to a congenital tuberculosis, to an heredo-contagion of the transplacental type. In a recent work on

¹ Hans Rietschel.—*Jahrb. f. Kinderheilk.*, 1909. Vol. xx, fasc. 1, p. 623.

² *La Presse Médicale*, No. 73, September 11, 1909, p. 643.

heredo-tuberculosis, Lereboullet³ states that the rapidity of evolution of tuberculosis in the infant leads one to explain, by an extra-uterine contagion, the cases in which death occurs, not immediately after birth, but during the first weeks or the first months of the child's life, the child not having been separated from his tuberculous mother. But Romme remarks that in the three cases of Rietschel not only were the infants removed from their mothers with whom they had no further contact, but they were placed in such conditions as to be preserved against a tuberculous infection. These facts may thus be construed as strong arguments in favor of an hereditary, a congenital tuberculosis, contracted during *intra-uterine* life. On the other hand, to this etiology may be opposed the protracted duration of this tuberculosis, having lasted six months in one child, three months and five months respectively in the other two.

Thus, finally, in these three cases, what has been the mechanism of the tuberculous infection?

For Rietschel, this infection has most probably taken place during the *intra-partum* stage, that is, during labor, shortly before or at the very moment of the expulsion of the child.

He agrees with Gärtner that, during the uterine contractions, some villousities break loose, tear apart, and that those lacerations, in a tuberculous placenta, are likely to occur preferably at the seat of tuberculous lesions. It may then be that tubercle bacilli thus liberated enter the portal portion of the placenta and invade the organism of the child. This tuberculosis in its subsequent evolution will resemble the acquired type of tuberculosis and will be influenced by the more or less massive degree of infection. It is indeed a well-known fact that, in the question of infection, the dose or amount of infectious material is of vast import. According to the views of Rietschel, the number of bacilli which may invade the fetal organism may vary in each case. Added to the individual resistance of the child, the variable proportion of invading bacilli would explain why the *intra-partum* tuberculous infection may assert its effect more or less rapidly, here in three months, there in six.

A question which seems to us very pertinent, is not raised by either Rietschel or Romme.

Is an infraction of the placenta at the seat of some tuberculous lesions necessary for the transmission of the tuberculous

³ *Traité d'Hutinel*, Paris, 1909, t. II, p. 16.

infection from the mother's organism to that of the child? Or, contrary to this opinion of Gärtner, cannot the transmission be effected along with the multiple biologic exchanges occurring all through the *intra-partum* life from one organism to the other, by means of the blood stream, regardless of any definite local alteration?

Syphilis has forced itself upon our consideration as being hereditary, as being transmitted from mother to child from the very onset of gestation. Is it more inconsistent for the Koch bacillus to find its way from the tissues of the one into the tissues of the other than for the *spirochaeta pallida*? A fact certain is the extreme difficulty experienced by the bacteriologists in differentiating at times between the pathologic changes found in tissues and in deciding whether they are attributable to syphilis or to tuberculosis. Thus, if almost similar structural changes are produced, if both diseases are under the dependence of bacteria having a parallel mode of action, it does not seem unfair to expect that their pathogenesis would exhibit a similar evolution. Similarity in the action of causes leads naturally to admit similarity of results.

Rietschel does not hesitate to admit that many cases of congenital tuberculosis are really instances of *post-partum* infection. In his estimation, the main characteristic of congenital tuberculosis, of truly hereditary type, is the rapidity of its evolution. But, does he state, though victims of an *intra-partum* infection children are not always separated from their tuberculous mothers; and it thus happens that they may be subjected to a "massive" infection either from their mothers or from their tuberculous surroundings, and this massive infection of a newborn organism, almost incapable of generating antibodies, may assume a fulminating course.

Can the rarity of placental tuberculosis be arrayed as against this view of *intra-partum* infection?

Rietschel quotes the statistics of Schmorl who found fifty per cent of cases of tuberculous women affected with placental tuberculosis, and of Sitzenfrey who, under similar conditions, has ascertained its presence in nearly twenty-seven per cent of cases. These figures are much higher than those of most authors. But it must be conceded that examinations for placental tuberculosis often require very minute searches, such as very few will consent to undertake; in one case, Schmorl had to practice 2,000 slides before he could establish a diagnosis

of tuberculosis. In support of his views, Rietschel has also related several instances of placental tuberculosis in which histologic examination of the organs of the fetus has demonstrated the presence of tubercle bacilli, chiefly in the capillaries of the liver, but also, at times, between the walls of the vessels and the trabeculae of the hepatic cells. In those cases, it seemed likely that the bacillary invasion must have taken place shortly, possibly a few hours, before birth.

Such are the facts, says Romme, on which is based the theory of Rietschel regarding the *intra-partum* type of tuberculous infection. They are not numerous enough to settle the question definitely, but there is no denying that they reopen, as we said in beginning, the controversy as to the existence or non-existence of hereditary tuberculosis. Should incontrovertible facts demonstrate in the near future that tuberculosis remains a truly inheritable disease, all our modern text-books will have to be in part revised and much of the arguments presented in our tuberculosis campaign differently countenanced.

TOXEMIAS OF INTESTINAL ORIGIN.

*Read by invitation at the Third Annual Meeting of the Third District
Branch of the Medical Society of the State of New York,
Hudson, N. Y., October 5, 1909.*

By VICTOR C. MYERS, M. A., PH. D.,

*Adjunct Professor of Physiological Chemistry, Albany Medical College,
Albany, N. Y.*

Among the varied phenomena occurring within the body which may have pathological significance, none are of greater importance or wider in their application than those connected in some way with metabolism. So long as the normal rhythm of nutrition is maintained, and the digestive and excretory organs fulfil their normal functions, there is no occasion for noting the condition of the digestive tract or the character of the urine and feces, but when as frequently happens disease sets in we are forced to a close scrutiny of all the possible causes.

Various toxemias unquestionably arise as the result of abnormal bacterial conditions in the intestine. The importance of such disorders and the many difficulties which beset their scientific investigation should be emphasized on the one hand, and on the other, their probable limitations.

The obstacles which lie in the way of an adequate understanding of the bacterial conditions of the digestive tract have been in general so numerous as to discourage attempts to investigate the nature of the flora in chronic diseases of the intestines. Three difficulties are especially obvious, first the multiplicity of the bacteria; secondly, the uncertainty of cultivating the really dominant organisms and thirdly, the difficulty of obtaining for study those products of symbiotic bacterial action which are truly representative of the decompositions which occur in the intestine.

The colon bacillus was for a long time associated with intestinal disturbances which were of a putrefactive and fermentative nature. At the present time, however, evidence seems to show that the function of *B. coli* is a protective one and that when typical putrefaction takes place, the colon bacillus is crowded to the wall and putrefactive organisms, apparently anerobic in their nature, take its place¹.

In early life the number of bacterial forms present in the alimentary tract is relatively few, especially in breast-fed children. At this age the products of intestinal decomposition are remarkably small in amount, and as would be expected the number of anerobic bacteria are few. However as time goes on we find in middle life a large number of persons in whom the putrefactive processes in the intestine are distinctly more active than is the case in early life. Metchnikoff² goes so far as to regard premature senility due to putrefaction caused by the activity of anerobic bacteria.

There are a large number of obscure conditions the etiology of which appear in part at least to be due to abnormal bacterial conditions of the digestive tract. Among such diseases may be mentioned anemia, chronic infantilism, mental depression, cyclic vomiting and even such remote difficulties as gout and arthritis.

To Herter³ especially is due the credit of carefully investigating such disturbances. From a long and difficult study of bacterial processes in advanced anemia, he was able to associate the condition with an excess of *B. aerogenes capsulatus* among the fecal bacteria. More recently he has found that chronic infantilism is accompanied by the presence of a bacillus in the intestinal tract which he has named *B. infantilis*.⁴ As has been pointed out by Finklestein, there seems to be little

doubt that the toxic symptoms sometimes accompanying acute enterocolitis are due to a bacterial intoxication. In his cases of chronic infantilism Herter was of the opinion that acute and subacute cases of enterocolitis stood in a casual relation to this disease.

Just how these abnormal bacterial conditions are brought about in the intestinal tract is difficult to say. The bactericidal property of the gastric juice is of no mean clinical importance, for gastric and intestinal fermentation is much greater in cases of anacidity of the stomach than under normal circumstances. Many chronic diarrheas are very probably dependent upon a lack of acidity in the stomach. Furthermore it has been found that, while intestinal putrefaction is not increased when putrid meat is fed to healthy dogs, this is the case when anacidity is present. When bacteria are administered in very large numbers, there is a chance that some of them will find their way into the intestine. This is particularly true when organisms are taken into an empty stomach or into a stomach with defective motility which secretes little gastric juice of low acidity.

Unquestionably the greatest factors in bringing about this abnormal bacterial flora are inadequacy in the digestive juices, lack of motility in the alimentary tract, together with insufficient mastication and the eating of an overabundance of protein food, thus producing the proper conditions for such bacterial growth.

Although many of the toxic conditions mentioned are unquestionably of bacterial origin, the intoxications produced are due to the bacteria only indirectly; rather to the poisonous products of their action.

The putrefactive products are much more important from the standpoint of toxicity than the products of fermentation. Those that deserve consideration are hydrogen sulphide and the aromatic compounds, indole, skatole, indoleacetic acid, phenol and the cresols. A number of cases are on record where the marked formation of hydrogen sulphide in the intestine has apparently resulted in an intoxication, the most prominent symptoms pointing to a toxic action on the central nervous system. However, the gas appears to be formed in at least moderate quantities under normal conditions and it hardly seems probable that hydrogen sulphide is formed in sufficient amount to produce any toxic symptoms, except in very rare in-

stances. The toxicity of the aromatic bodies indole, skatole, phenol and the cresols has long been a subject of discussion. Of these compounds indole is unquestionably the most important. From experiments which he made some years ago Herter⁶ concluded that the continued absorption of enough indole to produce a constant strong reaction for indican in the urine is sufficient to cause neurasthenic symptoms. Porcher and Hervieux⁷ maintained as the result of recent experiments on animals that the bodies of the indole group are nontoxic. Lee⁸ has found, however, that when excised muscles are perfused with a solution of indole, diluted even to 1-25,000, the amount of work they are capable of doing is decreased threefold. Furthermore Howland and Richards⁹ have found that when animals are poisoned with compounds which reduce the oxidative powers of the body the toxicity of indole and phenol is greatly intensified. Skatole is somewhat less poisonous than indole, and it is usually formed in too small quantity to receive special consideration. Phenol and the cresols in sufficient quantity are very toxic substances, but the quantities formed during putrefaction are insignificant in comparison and are greatly exceeded in their therapeutic administration without any symptoms whatever. Under normal conditions experiments have shown that these compounds are in a large measure burned up in the body. These compounds may, however, bring about an intoxication by the inability of the cells of the body to properly oxidize them, by an idiosyncrasy of the individual, or as the result of a diseased and susceptible nervous system.

Small amounts of phenol are always found to be present in the feces, but indole and skatole are rarely found in more than traces, indicating their almost complete absorption, though in exceptional instances indole may be found in considerable quantity during putrefaction. After absorption these compounds are in a large measure burned up in the body under normal conditions. That portion which is not thus destroyed is almost entirely eliminated in the form of ethereal sulphates, though sometimes small amounts appear as glucuronates.

The amounts of the various ethereal sulphates which are excreted in the urine is a measure not only of the amount of putrefaction but also of the inability of the cells of the body to completely oxidize these substances. However, a decided increase in the elimination of ethereal sulphates is clearly an

indication of increased putrefaction. This may be said to be true in a general way of indican, though often times the ethereal sulphates are increased without any such increase in the indican elimination. Much significance has been attributed by many clinicians to the indican reaction of the urine, and frequently though not always toxic disturbances are found to accompany indicanuria. Whether this is really one of the etiological factors or merely an accompanying symptom it is impossible to say.

Herter¹⁰ has recently found that the so-called urorosein reaction of the urine is due to the presence of indoleacetic acid. In certain cases it has been found to be eliminated in considerable quantity, though its exact significance is not known. Certain putrefactive conditions apparently bring about the production of indole, others skatole or indoleacetic acid. Tryptophane or indole-alpha-aminopropionic acid is the precursor of these three putrefactive products, and as Herter has suggested, since tryptophane appears to be one of the important amino acids, the amount which is often lost in this way is of no mean importance.

Under certain bacterial conditions large amounts of carbon dioxide are formed, likewise acids especially acetic and lactic. Time will hardly allow a discussion of this subject, though in regard to fermentation and putrefaction this much may be said, excessive fermentation in the digestive tract nearly always leads to excessive putrefaction. A method employed by Herter which will frequently give an idea of the putrefactive or fermentative ability of fecal organisms, is the chemical analysis of culture media inoculated with the fecal bacteria.

Some of the conditions in which chronic bacterial infection of the digestive tract is an important consideration have been mentioned. In the cases of pernicious anemia studied by Herter, not only was there a great increase of *B. aerogenes capsulatus* among the fecal bacteria, but the products of putrefaction were decidedly increased as might be expected from the presence of a large number of anerobic bacteria. The same thing may be said in a general way with regard to *B. infantilis* in infantilism.

Many clinicians are of the opinion that mental depressions are associated with indicanuria, and it is certainly true that a high elimination of indican is often found among patients suffering from mental disorders. In a study which we carried

out at the Connecticut Hospital for the Insane¹¹ upon cases of acute mental depression, evidence of considerable intestinal putrefaction was obtained in several instances. Quantitative analyses were made of urine, feces and culture media inoculated with fecal bacteria, extending in some cases over a considerable period of time. Two of these subjects were living on a milk diet, which as a rule tends to reduce the amount of putrefaction. In one of these cases the elimination of phenol was found to be excessive in both urine and feces. Indole and skatole were absent from the feces but the indican elimination of the urine was high and the excretion of ethereal sulphates was excessive, the ratio to inorganic often being 1, 2 or 3. In this case the ability of the fecal bacteria to produce indole and phenol was striking, in one instance 0.2 g. of indole and 0.1 g. of phenol being formed in 100 cc. of media. With this case the symptoms appeared to ameliorate with the decrease in putrefaction.

An additional consideration to be borne in mind in regard to this type of disease is that the oxidative power of the body cells often appear to be considerably reduced. This is also found to be true in a general way of later life. Since the oxidizing powers of the cells are diminished, the absorption of bacterial poisons will on this account produce much more harmful results.

In the recurrent vomiting of children Howland and Richards have shown that previous to the attack the indican, uric acid and ammonia are all increased, acetone and diacetic acid are present and in some cases beta-oxybutyric acid. They are of the opinion that this condition is brought about by abnormal bacterial conditions in the intestine, together with defective oxidation.

In gastroenteritis Moll¹² has found the phosphate elimination and indican to be greatly increased. He concludes that a good prognosis may be given, when after the withdrawal of food and the substitution of a water diet, the phosphate elimination is substantially reduced within forty-eight hours and quickly reaches a low limit. Dr. Shaw¹³ informs me that in observations, which he has had the opportunity of making in collaboration with Dr. Potter, they have also noted this increased phosphorus and indican elimination in bottle-fed infants suffering from gastroenteritis.

Gout and arthritis are said to be found among people who

have lived for years on high protein diets, thus producing the most favorable conditions for intestinal putrefaction.

Since the appearance of Metchnikoff's book on the prolongation of life, considerable attention has been attracted to the use of sour milk, lactic acid and lactic-acid ferments as curative agents for intestinal putrefaction, but their usefulness is still problematical. In regard to the use of sour milks Herter¹⁴ says, "Experiments of a kind calculated to furnish a firm scientific foundation for a rational use of fermented milks have not been made. Persons suffering from chronic intestinal putrefaction have shown no diminution in the putrefactive products excreted in the urine where patients have added a soured milk to their usual diet." It has been assumed with far too little reason that the dominant presence of foreign microorganisms of the lactic acid group is necessarily a desirable thing. Furthermore it has not been shown that lactic acid bacilli, such as *B. bulgaricus* or certain varieties of *B. acidilactici*, have the faculty of replacing undesirable microorganisms in the intestinal tract. On the other hand certain diseases of the intestine are associated with the presence of bacteria capable of forming lactic acid. It may be regarded as well established that a diet in which milk takes the place of other kinds of food is very apt to be followed by a reduction in the intensity of putrefactive decomposition in the intestine. This, however, is very probably due to the reduction in the amount of protein consumed, and would result as well on fresh as soured milk. Herter concludes, "With the aid of experiment I have no doubt that the usefulness of soured milk in health and disease will be definitely established. The limitations will become equally plain, and I predict that they will be many."

Various disturbances which appear to be due to the presence of abnormal bacterial conditions in the digestive tract have been discussed. For the diagnosis of an autointoxication, or more properly an autoinfection, many things need to be considered. Although such disturbances very probably exist, it

can hardly be said to have been finally established from a scientific standpoint. On this account such condition should be regarded with a certain amount of scepticism. A few clinical symptoms and the presence of indican in the urine will hardly suffice for such a diagnosis.

The treatment of intestinal putrefaction with sour milk, lactic acid or lactic acid ferments has not yet been proven of scientific value, nor has it been shown that the presence in the intestine of foreign microorganisms of the lactic acid group would be desirable.

As has been pointed out by Chittenden¹⁵ many individuals unquestionably live on a too high protein diet, with the result that the nitrogenous waste products are increased, unnecessary labor is thrown upon the excretory organs and the very best opportunity given for the growth of putrefactive bacteria in the intestines. In such derangments of the intestine, attention should first of all be given to the diet. Two other important factors are proper motility in the alimentary tract and efficiency of the digestive juices.

REFERENCES.

1. RETTGER. *Jour. Biol. Chem.*, 1906, ii, 71 and 1908, iv, 45.
2. METCHNIKOFF. *The Prolongation of Life*, Eng. Edit., London, 1907.
3. HERTER. *Bacterial Infections of the Digestive Tract*, New York, 1907. See also *Jour. Biol. Chem.*, 1906, ii, 1.
4. HERTER. *On Infantilism from Chronic Intestinal Infection*, New York, 1908. See also KENDALL: *Jour. Biol. Chem.*, 1908, iv, 419.
5. PINKLESTEIN. *Jahrb. f. Kinderheilkde.*, 1907, xv, 1.
6. HERTER. *New York Med. Jour.*, 1898, lxviii, 89 and 116.
7. PORCHER AND HERVIEUX. *J. physiol. path. gén.*, 1906, viii, 841; also HERVIEUX: *Compt. rend. soc. biol.*, 1907, lxii, 895.
8. LEE. *Jour. Amer. Med. Assoc.*, 1906, xlv, 1499.
9. HOWLAND AND RICHARDS. *Arch. Pediatrics*, 1907, xxiv, 401.
10. HERTER. *Jour. Biol. Chem.*, 1908, iv, 253; also *Jour. Amer. Med. Assoc.*, 1908, i, 1959.
11. MYERS, FISHER AND DIEFENDORF. *Amer. Jour. Insanity*, 1909, lxxv, 607; also *Zentr. f. Physiol. u. Path. Stoffwechsels*, 1908, ix, 849.
12. MOLL. *Jahrb. f. Kinderheilkde.*, 1909, xix, 450.
13. SHAW AND POTTER. Unpublished results.
14. HERTER. *Pop. Sci. Mo.*, 1909, lxxiv, 31; also *Jour. Biol. Chem.*, 1908, iv, 293. Cf. HEINEMANN: *Jour. Amer. Med. Assoc.*, 1909, lii, 272.
15. CHITTENDEN. *Physiological Economy in Nutrition*, New York, 1905.

THE MAIDSTONE TYPHOID EPIDEMIC.

*Read before the Third District Branch of the Medical Society of the State
of New York, Hudson, N. Y., October 5, 1909.*

By W. P. MASON, M. D.,

*Professor of Chemistry at the Rensselaer Polytechnic Institute,
Troy, N. Y.*

In 1897 the county town of Kent, with a population of 34,000, was visited by a serious outbreak of typhoid fever and, although in a general way we on this side of the Atlantic have had some information concerning the epidemic, yet no special presentation has been made to an American audience of the interesting features of the case. During a recent visit to the spot the writer has been enabled to secure data for the following sketch. Full use has also been made of the official report, and its illustrations.

Maidstone is situated upon the Medway river, but the water with which the town was supplied came from underground sources, being developments of a number of local springs so situated as to be utilized in three several groups. It was one only of these groups that had its water infected,—and the cause of such infection is the interesting point in the case.

The present municipal supply is derived from deep wells and from galleries driven into the chalk along the plane of its junction with the underlying clay, and the water so secured is excellent, but our interest is centered in the conditions as they existed in the summer of 1897.

At that time the city's water was obtained from the subsoil drainage of a highly cultivated district where the soil is often of stiff clay capable of ready desiccation, with formation of deep soil-cracks during periods of little rain. Through such a dried and fissured soil water can pass rapidly, and in relatively large streamlets, without securing the full advantages of efficient filtration.

A glance at the illustrations is sufficient to show that plenty of opportunity would be given for such polluting material as might be thrown upon the ground surface to pass the arable layer in times of relative dryness and reach the tile collectors resting upon the clay bed a few feet below. As to what kind of pollution might occur upon such surface let it be said that the

whole district is heavily tilled, and consequently manured, and that the staple is "hops," a crop whose method of harvesting presents conditions both peculiar and dangerous.

Hops ripen at Maidstone in the latter part of August and the crop is gathered by a small army of "pickers" recruited from the slums of London. During the picking season these people come down in families and settle temporarily upon the land, a large number of them living in the open, covered by whatever shelter can be secured. They are paid at the rate of one shilling for seven "baskets," an amount equal to sixty imperial gallons all told. Usually a family, children included, are assigned a "bin," which is a vessel made of sacking 8 x $2\frac{1}{2}$ x $2\frac{1}{2}$ feet in dimensions, and into this their pick is thrown.

It may be worth while to add that the green hops are placed upon the perforated floor of a "drier" in a layer two feet deep and are heated by a small coal fire upon which is thrown about five pounds of sulphur, the fumes from which kill all insects that may be present. The dried hops are afterwards pressed into bags for market.

It is a matter of common knowledge that land containing much clay will under the influence of summer sun, become deeply fissured provided that no rain falls to neutralize the drying effect.

From the character of the Maidstone "pickers" it is easy to conceive that typhoid might be carried to the hop-fields, and if so carried abundant opportunity would be given for infection to pass into the local ground water during periods of drought. Dejecta deposited upon the surface would surely be washed by the first rain into the deep cracks formed in the clay soil through the influence of desiccation.

In 1897 the cracks in the Maidstone soil were well developed because "from June 29th to August 6th there had been no rain save on July 26th and 27th" and then only 0.21 of an inch. It is easy to see how any polluting material deposited upon the surface, whether by the hop-pickers or others, could thus pass easily into the substratum without undergoing purification by soil percolation.

Many of us will remember the relationship suggested by Pettenkofer as existing between low ground water and typhoid fever, and the still more interesting work of the Michigan Board of Health showing that the increase of the disease synchronized

with the rise of ground water level caused by the first heavy rain following long drought.

The Maidstone experience accorded with the "Michigan rule." Heavy rain fell on August 7th and 8th, the ground water level rapidly rose and two weeks later the typhoid epidemic began. Dr. M. A. Adams pointed out that the sudden high water level was due "to the highly desiccated clay being unable to readily absorb so much moisture." Later, however, "notwithstanding occasional rainfall" the water level began to decline, because of increased power of absorption on the part of the soil, and subsequently the heavy rains of the end of August caused a second rise of ground water which, allowing for the two weeks incubation period, corresponded with the climax of the epidemic.

Dr. Adams shows in illustration a sketch in support of his view as to the cause of the epidemic and pictures the deep soil-cracks which he observed in the hop-lands.

It is interesting to observe the relation of the outbreak of typhoid with the rise in ground water as shown by chart in the report of the Local Government Board, although it must be admitted that the data call for a very short incubation period if we are to assign the disease to the hop-pickers as a cause. The same report also pictures in chart form the epidemic of severe "diarrhea of a somewhat peculiar kind" which preceded the typhoid and more nearly synchronized with the rainfall.

Many observers have noted and reported this tendency of typhoid epidemics to be immediately preceded by diarrheal disturbances. Whether or not the typhoid was in this instance due to pollution carried to the locality by the London pickers or to similar material of local origin or to "the very highly and deeply manured soil of the hop gardens," the lesson for us lies in the manifest relation existing between a polluted surface soil and the underlying ground-water when the former becomes dry and fissured by prolonged drought.

In view of the present interest taken in the hypo-chlorites for use in water purification, let it be said that, subsequent to cutting off the infected water, the mains at Maidstone were flushed with a solution of "Chloride of Lime." The result so far as disinfection went was satisfactory but we now know that the "dose" used was far larger than was necessary.

No less than 583 grains of "Bleaching Powder" per U. S. gallon of water (equivalent to 204. grains of available chlorine);

in other words a one per cent solution, was the strength proposed for employment, but even this enormous dose was exceeded through an oversight and the solution actually used was still stronger. It is not surprising therefore to learn that "nearly every Tap started leaking and had to be re-leathered" and that "the fire-engine, pump-buckets and delivery and suction hose were entirely destroyed." From our present knowledge of the very minute dose of "bleach" that will kill intestinal organisms we are perfectly willing to endorse the belief of the Maidstone authorities that "no micro-organisms of any form that could have obtained access to these pipes could remain alive and active."

STATE OWNERSHIP OF THE HEADWATERS.

*Read at the Third Annual Meeting of the Third District Branch of the
Medical Society of the State of New York, held at
Hudson N. Y., October 5, 1909.*

By CLARK G. ROSSMAN, C. E., M. D.,

Hudson, N. Y.

The first National Conservation Commission considered the resources of our country under four heads: mineral, land, forest, and water resources. Water resources were the subject of investigation under the evident utilitarian purposes of water for irrigation, navigation, power, and the destructive influences of flood waters. Sewage purification was mentioned, but without emphasis.

The joint Committee on Conservation at its second meeting, which was held this last winter, said:

"Too long have we overlooked the grandest of our resources, human life. Natural resources are of no avail without men and women to develop them, and only a strong and sound citizenship can make a nation permanently great. We can not too soon enter on the duty of conserving our chief source of strength by the prevention of disease and the prolongation of life.

"Since the greatest of our national assets is the health and vigor of the American people, our efficiency must depend on national vitality even more than on the resources of the minerals, lands, forests, and waters.

"There are constantly about 3,000,000 persons seriously ill in the United States. More than half of this illness is pre-

ventable. If we count the value of each life at only \$1,700 and reckon the average earning lost by illness as \$700 per year per grown man, we find that the economic gain from mitigation of preventable disease in the United States would exceed \$1,500,000,000 a year. This gain, or the lengthening and strengthening of life which it measures, can be secured through medical investigation, and practice, school and factory hygiene, restriction of labor by women and children, *the education of the people in both public and private hygiene*, and through improving the efficiency of our health service, municipal, state, and national.

"Believing that conservation movement tends strongly to develop national efficiency in the highest possible degree in our respective countries, we recognize that to accomplish such an object with success, the maintenance and improvement of public health is a first essential.

"In all steps for the utilization of natural resources, consideration of public health should always be kept in view.

"Facts which cannot be questioned demonstrate that immediate action is necessary to prevent further pollution, mainly by sewage of the lakes, rivers, and streams throughout North America. Such pollution aside from the enormous loss in fertilizing elements entailed thereby is an immediate and continuous danger to public health.

"We recognize the waters as a primary resource, and we regard their use for domestic and municipal supply, irrigation, navigation and power as interrelated public uses, and properly subject to public control.

"We therefore favor complete and concurrent development of the streams and their sources for every use to which they may be put.

"*The highest and most necessary use of water is for domestic and municipal purposes.* We therefore favor the recognition of this principle in legislation and where necessary, the subordination of other uses of water thereto."

During the census year 1900 there were 35,379 recorded deaths from typhoid fever in the United States. About 15,000 cases of typhoid fever with 1,379 recorded deaths occurred in New York State in 1908. This represents a death rate from typhoid fever of 16 per 100,000 population, the lowest ever attained in this state, and a loss of vital assets of about \$5,000,000.

Consideration should also be given to the fact that for each death from typhoid fever there are three or four deaths, at least, from diseases not now recognized as being water borne, coincident with the use of this same impure water.

With a pure water supply and efficient sewage purification there would be no case of typhoid fever or other water borne or "concurrent disease" which probably gain a foothold by the lowered vitality due to the use of impure water.

We are just beginning to appreciate the wisdom of Aristotle when he said: "The greatest influence on health is exerted by those things which we most freely and frequently require for our existence, and this is especially true of water and air."

Inspection and supervision of the sanitary condition of water sheds and sewage disposal plants are usually under the divided authority of boards of health and public works.

Water works superintendents change, ability is a variable factor. Too often there is a lack of adequate knowledge of sanitary principles or of necessary foresight which at a critical time might have averted an epidemic.

The "danger zone" is often, under many conditions, far greater than the protected zone for a water supply.

Possible sources of pollution from inhabited areas are almost innumerable, particularly uncontrollable is the unintentional contamination.

Insufficient supervision and enforcement of Sanitary Rules and Regulations have been repeatedly shown, as at Peekskill.

Pollution of like character can only be avoided by, municipal, state or national ownership of sufficient unpopulated drainage area of the head waters, thus securing an uncontaminated drinking water, *originally pure and still pure, not nearly pure.*

In the Hudson Valley it is feasible from the geological formation, particularly on the eastern bank, and not attended by any great engineering difficulties, to have several of these reservations.

Near this City, in the territory from which our water supply is drawn, there are seventy-five square miles of head waters, composed of upland pasture and woodland, but thinly populated, about fifteen per square mile; and of an assessed valuation of about \$750,000. This head water is capable of developing 37,500,000 gallons daily, a sufficient per capita supply of 100 gallons for a population of 375,000.

There are several other like areas near by, some of slightly greater, others of less valuation.

New York City is contemplating the erection of a filtration plant at a cost of about \$7,000,000 to obtain a nearly pure water.

A like amount of money expended judiciously for absolute ownership would secure a considerable water supply of unquestioned original purity.

It probably is not possible for all municipalities to obtain an originally pure and still pure water. In such instances sewage purification and filtration will be necessary.

Scientific reforestation and other sources of revenue obtainable from reservations about head waters can be feasible and profitable investments to the State, besides promoting the far reaching conservation of resources.

Acknowledgment is made of indebtedness to the Forestry Service and to the State Board of Health.

INJURIES TO THE PATELLA WITH THEIR SURGICAL TREATMENT.

Read before the Third District Branch of the Medical Society of the State of New York, Hudson, N. Y., October 5, 1909.

By J. H. MITCHELL, M. D.,

Cohoes, N. Y.

Before taking up our discussion of the subject in hand, I think it would be well to refresh our memory by a brief anatomical description of the patella.

The patella (little dish) or knee pan is a flattened triangular sesamoid bone in the quadriceps extensor tendon at the front of the knee joint. Its slight convex ventral surface is longitudinally striated for the fibrous expansion of the tendon. Its dorsal surface is mostly cartilage-clad to articulate with the trochlear surface of the femur, and is divided by a vertical ridge into a larger outer concave portion and a smaller inner convex one to articulate with the outer and inner sides respectively of the trochlear surface. The upper border or base is beveled in front and has attached to it the tendon of the muscles comprising the quadriceps extensor. The apex is directed downward and the border on either side of it attaches the ligamentum

patella, while the rough area of the dorsal surface above the apex is in relation to a mass of fat. In front of the patella is a bursa separating it from the skin.

Injuries to the patella are dislocations and fractures. The majority of the dislocations of the patella are lateral. They are easily detected, easily reduced and the after treatment is directed to the prevention of recurrence. The patella can only be displaced downward by a blow received on its upper margin sufficient to tear it loose from its muscular attachments, and when it is carried upward by the contraction of the quadriceps the ligamentum patella is ruptured. These need careful surgical attention.

Fractures of the patella may be caused by violent contracture of the quadriceps extensor muscle, or by a blow or fall upon this bone, or both of these factors may combine to cause the lesion. The line of fracture is usually transverse and in a majority of instances, just below the middle of the patella. It may be broken in an oblique or longitudinally direction or in several directions at once. This has been called stellate fractures. When muscular contracture is the chief or sole factor in this break, the line of cleavage is usually transverse. Longitudinally and stellate fractures are usually the result of direct violence. Fracture of the patella is usually complete. The separation of the fragments varying from a small fraction of an inch up to two or more inches. The separation is generally more marked on the internal, than the external border.

There is what is known, as *incomplete fracture of the patella*, where the cartilage has not given away, but as these fractures are mostly discovered at post-mortem they are of little interest to the surgeon.

There may also occur from direct or indirect violence, *rupture* of the tendon of the quadriceps extensors femoris, which Dr. Joseph D. Bryant, says in his text-book on Operative Surgery, "May be mistaken for fracture of the patella." As I have never seen one of the cases I may not be a competent critic, but I do not see how one can mistake a ruptured tendon for fractured patella unless the parts are so swollen as to make it impossible to discover the anatomical relations. I have seen two cases of rupture of ligamentum patella caused by direct and indirect violence to which I shall refer later, and they were easily detected.

There are many methods of treating these injuries of the patella. But I will only mention these: The one in vogue and most highly recommended by Wyeth twenty years ago, in fact, Dr. Wyeth declared in 1887, "The only sane way to treat these injuries was, the Hamilton method." Professor Hamilton's method, as you all know is the prepared posterior splint holding the fragments together as best as you can by bandages, otherwise known as the non-operative.

The subcutaneous ligature thrown around the fragments, known as *Ceci's* method, afterwards much improved upon by Dr. W. G. Macdonald of Albany, N. Y., who devised a needle that would call for but two punctures, thereby, greatly reducing the chances of suppuration. And the *direct operative method*, that of cutting into the joint and bringing the fragments together with wire or catgut.

In support of the latter method, I wish to report a few cases I have treated.

CASE 1. J. M., aged forty-four. A mason, slipped and fell on icy sidewalk, Dec. 10th, 1906, striking on right knee producing a comminuted fracture of the patella, the patella being fractured transversely and the lower fragment, fractured vertically. He was brought to the hospital Dec. 14th and I operated the next day, five days after the injury. A transverse incision was made directly over the separated fragments, blood clots removed, and all intervening fibrous and other tissue cleared away with scissors. The fractured surfaces brought together with three wire sutures, all other parts brought together with catgut. Subcutaneous stitch being used in closing the wound, which was sealed without drainage, covered with iodoform gauze, and aseptic gauze pad, and a plaster paris cast applied to the full length of the leg. As there was no temperature present, we made no fenestra in cast until the twelfth day, when the wound was examined and found perfectly healed. Patient left the hospital on sixteenth day after operation. Plaster cast removed on the third week and passive motion begun. I saw him three months after the operation and he had an almost perfect joint.

CASE 2. J. B., aged 42. A cigar maker. Fell down a flight of stairs striking on his knees. Was brought to the hospital March 5th, 1907. Upon examination found complete rupture of right ligamentum patella and partial rupture of left ligamentum patella. Operated next day, twenty-four hours after injury. An incision was made vertically over the right ligamentum patella. The ends of the ligaments were brought together with chromatinized catgut. Skin brought together with subcutaneous suture. Wound closed without drainage. Aseptic dressings applied and plaster paris cast extending the whole length of limb. This patient was a chronic alcoholic and took the anesthetic very badly, in fact nearly died on the table. We treated the partial rupture of the

left patella by holding the parts together with adhesive bandages. A fenestra was made in the plaster paris cast the third day but there was no suppuration. Cast removed the third week, passive motion begun. Patient was discharged forty-second day after the operation. Had good results in both knees.

CASE 3. Feb. 29th, 1909. L. H., aged 34. Coal carrier. Fell on slippery board while carrying a basket of coal striking on right knee causing a transverse fracture of the right patella and the fragments were separated two and one-half inches. Patient was brought to the hospital and operated on within two hours of the accident. Made a transverse incision directly over the separated parts, brought fragments together with two wire sutures and all other parts brought together with catgut. Wound closed with subcutaneous suture without drainage. Aseptic dressings applied. Plaster paris cast was used on the leg. Fenestra made in forty-eight hours after operation as temperature was 101. Found no suppuration. Cast was removed the eighteenth day and passive motion begun. Patient was discharged on the thirty-sixth day after operation. Could then bend his knee to almost a right angle.

CASE 4. H. D. M., aged 41, mill hand. On March 21, 1909. Fell into canal, there being no water in said canal at the time. Received a scalp wound and a transverse fracture of the right patella. He was brought to the hospital and operated upon the same day, fourteen hours after the accident. Made a transverse incision directly over the separated fragments which were two inches apart. Fragments brought together with thirty-day chromotized catgut, *instead of wire*, boring the holes the same as if wire was used. All other parts were brought together with catgut finished with subcutaneous stitch and no drainage. Aseptic dressings used and plaster paris cast applied to full length of the leg. As temperature was 102, a fenestra was made in the cast on fourth day. There was a slight discharge from external angle of the wound and subcutaneous suture was removed. Hot bichloride packs applied and wound healed kindly, Plaster cast removed the twenty-first day and passive motion begun. Patient discharged the forty-second day after the operation with limb in good condition.

CASE 5. J. F., aged 44, mill hand. On October 15th, 1898, fell from an ice house receiving a transverse fracture of the left patella. It was treated according to the Hamilton method. The result was a ligamentous union which afterwards became cartilaginous. In the space between the separated parts of bone, which was partially filled in with cartilage, you could place your three fingers. On June 10th, 1909, he was in a railroad collision and although he did not fall, the severe contraction of the quadriceps re-fractured Nature's repaired patella. He was operated upon June 14th, four days after injury. Transverse incision was made, cartilaginous parts brought together with thirty-day chromotized catgut, boring through the parts the same as for wire, also a chromotized catgut was thrown around the patella passing transversely through the ligamentum patella at its insertion into lower fragment and so carried

around the bone, passing through the quadriceps attachment. Wound closed as in the past cases, no drainage. Plaster paris cast applied to leg in which a fenestra was made the next day. On fourth day had slight superficial suppuration, hot bichloride packs were applied and wound healed kindly. Cast removed the twenty-eighth day and passive motion begun. Patient discharged on fifty-fourth day in good condition.

From my experience in these cases and from what I have gleaned in looking up our latest surgical authorities, I draw the following conclusions:

1st, That suture of the patella with wire or chromotized catgut is now generally accepted as a justifiable measure,

2nd, That thorough asepsis must be had to forestall the possibility of suppuration of the joint cavity,

3rd, That the transverse incision made directly across the joint between the inner and outer aspect at or close to the line of fracture permits the most extended examination of the joint cavity and the best opportunity to repair the lateral lacerations of capsule and better opportunity to remove anything that might get between the fragments thereby.

4th, That it is well to seal the wound without drainage, if possible.

5th, That it is advisable to commence passive motion early. To overcome the limitation of flexion, which is so common in repaired fracture of the patella, I am indebted to Dr. J. L. Archambault for the translation of the following from the *La Presse Medicale*, December, 1906:

"Following the teaching and practice of Lucas-Champion-nere, Vallos exhibited at the Society of Surgery, a patient admitted in his service with a fractured patella. He performed a suture through the ligamentous part only not wiring the bone, and fourteen days after, the patient walked about without crutches, and a few days thereafter without even the use of a cane. Vallos considers the ligamentous circling sufficient. Extension is easily obtained. As to flexion, it is yet limited, but this is generally so at first. This limitation of flexion being the great disadvantage in fractures of the patella, it becomes of prime interest to attempt early mobilization. This case appears as a fair evidence, that such early mobilization can be safely undertaken by the fourteenth day."

FATAL ESOPHAGEAL HEMORRHAGE EIGHT DAYS AFTER SWALLOWING FOREIGN BODY.

*Read before the Third District Branch of the Medical Society of the State
of New York, Hudson, N. Y., October 5, 1909.*

By PERCY G. WALLER, M. D.,

New Baltimore, N. Y.

Mr. President and Members of the Third District Branch:—

The passage of foreign bodies through the esophagus is not at all uncommon. Indeed, very few general practitioners fail to meet with such cases while engaged in active practice. Coins, marbles, glass, splinters of wood, fish bones, pins and needles have all traveled through the alimentary canal without inflicting much or any damage.

Danger is present, however, particularly if the bodies are sharp and are retained. This report of a recent case occurring in my practice is brought to your attention to show what serious and fatal results may follow an apparently simple and insignificant accident.

Mrs. O. D., aged 35 years, neurotic temperament, consulted me during the evening of Feb. 28, 1909. The history is as follows: At dinner about 1 P. M. she noticed a scratching sensation in her throat while swallowing a mouthful of food and concluded she had swallowed a small piece of chicken bone with potatoes and gravy. This, however, did not prevent her from completing the meal. As the throat felt uncomfortable during the remainder of the afternoon she consulted me in the evening.

On inspection no foreign body could be discovered, and as the patient was very nervous, I concluded that if a foreign body had been swallowed it had probably been carried into the stomach during the latter part of the meal, and that the scratching sensation was due to the damage done in its downward passage.

The patient was directed to follow a liquid diet, partake freely of flour and milk, and report later. The next day patient complained of some slight distress in the sternal region when swallowing, but of no other unusual symptom. Two days later patient consulted me again. Some distress still present in the sternal region but on the whole the condition seemed to be improved. Patient was ordered to continue the liquid diet and consult me later. During this time bismuth subnitrate had been given several times daily.

The last visit to my office was on Wednesday. On the following Tuesday morning I was summoned about 3 A. M. to visit the patient and found that she had continued to improve after her last visit to my office and had felt so well she had partaken of some bread and tomato

pickle the evening before. Shortly after supper she complained of nausea and retching but no pain, and performed her usual household duties before retiring.

About 12 P. M. some blood was vomited, but at 3 A. M. such a large amount, that I was hastily summoned. On arrival I found the patient presenting the usual symptoms of internal hemorrhage. Ice was applied over the gastric region, adrenalin given internally, hypodermics of morphine and atropine used and saline solution by rectum in an endeavor to check the loss of blood and sustain the patient. Realizing that the patient's condition was critical and apparently hopeless if left in her home, preparations were at once made to remove her to the Albany Hospital with the hope that if the hemorrhage was coming from some eroded gastric vessel, surgical aid would be successful in checking it. Patient was taken upon a cot to the train about 6 A. M. and left the house in fair condition. During this interval she was conscious and intelligent, had no pain, but would, about every hour, complain of nausea and shortly after vomit a pint or so of bright blood. Just before Albany was reached the patient became unconscious and died about 8:45 A. M. in the ambulance before reaching the hospital. I am indebted to Dr. Traver, the Coroner's physician, for the following notes of the autopsy.

"At the level of the bifurcation of the trachea are two linear ulcers on the esophagus; one on the right wall, the other exactly opposite on the left. The mucosa elsewhere is pale. The incision on the right side is three and one-half centimeters in length with the long axis parallel to the axis of esophagus. In depth, the opening is three centimeters and does not extend entirely through the muscle. There is a slight redundancy of the mucosa at the edges of the wound. The deeper portions are bright red in color and have attached a few delicate strings of bright red fibrinous material. The upper end of this incision is 12 centimeters below the upper border of the posterior portion of the cricoid cartilage. This is just below the bifurcation of the trachea and on a level with the arch of the aorta. The incision on the left side is thirteen centimeters below the upper border of the posterior portion of the cricoid cartilage. This opening extends through all the coats of the esophagus. The esophagus is adherent to the beginning of the thoracic aorta by slightly edematous, firm, fibrinous material. On opening the aorta along its anterior surface, a minute opening is found on the posterior wall just above the origin of the first right intercostal artery. This opening is two centimeters in length and of a brownish discoloration. It lies two centimeters below the inferior margin of the orifice of the left subclavian artery. A glass tube is passed without resistance through the wound from the aorta into the esophagus. The stomach and intestines were filled with clotted blood. Careful examination was made of the stomach and intestinal contents without finding the bone."

When this patient first presented herself, the question naturally arose as to the best line of treatment. Taking into consideration the neurotic patient, apt to magnify trifles, the history of being able to swallow without difficulty the remainder of

the meal, and the absence of any objective symptoms I was led to believe an expectant line of treatment was indicated for the time being without using the esophageal bougie.

Albert states that "perforation may be caused by the instrument used in searching for the foreign body."¹ Keen's Surgery² states that examination with the sound is in general to be condemned and should be resorted to only in the case of soft foreign bodies, as in such a case the object may be pushed into the stomach by the sound or rejected by regurgitation."

Da Costa³ states that "even after a foreign body has been removed by swallowing or otherwise a sensation is apt to remain as if it were still lodged." It is also stated by Fowler⁴ that "it sometimes happens that the foreign body has passed into the stomach and the symptoms are due to injuries inflicted during the passage, and that fish-bones unless very large seldom do harm after reaching the stomach, the gastric juice attacking and softening them."

I remember when a student witnessing the post mortem removal of some fifty pins, sixteen needles, splinters of wood, a yard or two of flannel cloth and a few screws from the stomach of an insane woman, and yet death was not considered to be due to digestive troubles.

Da Costa⁵ also states that "sharp foreign bodies may be entangled and carried down when the patient eats mush, bread or boiled potatoes."

Wyeth⁶ mentions a case of "a country practitioner who dislodged a pin from the esophagus by feeding the patient with balls of corn meal mush containing fine pellets of cotton. The mush was digested and the cotton remained in the stomach. The patient was given an emetic and vomited the cotton in which was embedded the pin."

Keen's Surgery⁷ states that "large foreign bodies such as dental plates may remain for years in the esophagus without attracting attention," and Richardson,⁸ of Boston, reported the case of a man who had a plate with false teeth impacted in the lower end of the esophagus for ten months. This was finally removed through the stomach wall by operation.

Erichsen⁹ states that some years ago he was requested to see a patient who was said to have swallowed a piece of gutta-percha some six months before. He failed to discover the existence of any foreign body. Previously, surgeons had con-

cluded that the gutta-percha had passed into the stomach, and that the esophagus had been scraped by it in its downward passage. One day while at dinner the patient suddenly vomited a large quantity of blood and fell dead. On examination after death it was found that the gutta-percha had ulcerated through the mucous membrane into some esophageal vessel, thus giving rise to the sudden and copious hemorrhage which had caused the patient's death.

Undoubtedly, many of the gentlemen present could relate cases in which small objects have been swallowed without producing the least harmful effect, but occasionally, as shown by the case recorded to-day, fatal results may follow these simple accidents.

My opinion is a radiograph should be taken, or the esophagoscope used in cases presenting even slight throat symptoms after swallowing foreign bodies. The prognosis is uncertain as long as the foreign body remains in the alimentary canal.

REFERENCES.

1. ALBERT. *Diagnosis of Surgical Disease*. 8th edition.
- 2 & 7. KEEN'S *Surgery*.
- 3 & 5. DA COSTA'S *Surgery*. 4th edition.
- . FOWLER'S *Surgery*.
6. *N. Y. Medical Journal*. Sept. 29, '87.
8. *Boston Med. & Surg. Journal*. Dec. 16, '86.
9. ERICHSEN'S *Surgery*. 7th edition. Vol. 11, p. 523.

CASE OF TRAUMATIC OESOPHAGEAL STRICTURE IN A TWO-YEAR-OLD CHILD,

WITH RADIOGRAPH.

Read before the Third District Branch of the State Medical Society, of the State of New York, at Hudson, N. Y., October 5, 1909.

By GEORGE W. ROSS, M. D.,

Port Ewen, N. Y.

Cicatricial strictures are commonly a late effect of swallowing caustic fluids, a sloughing surface results, followed by the formation of scar tissue. The gradual condensation or contraction of which produces the stenosis. Weeks and even months in some cases may elapse before obstruction appears.

The accidental or intentional swallowing of caustic is the most common cause of cicatricial stricture of the oesophagus. Next in

frequency are foreign bodies long impacted; and, finally, tubercular or syphilitic and other ulcers.

These strictures are dense and unyielding, especially if deep, and involve the muscular walls. They naturally tend to contract indefinitely.

The first and most important symptom of Oesophageal Stenosis is interference with deglutition. The gradually increasing inability to swallow is usually caused by the slow contraction of the cicatricies. Difficulty in swallowing may come on quickly from wounds or escharotics. As the immediate result of these injuries the dysphagia of permanent organic stenosis develops slowly. When the obstruction is so great that the patient suffers from insufficient food the signs of malnutrition appear.

Usually there is no difficulty in making a diagnosis of cicatricial stricture, as the history of mechanical injury or the swallowing of a corrosive fluid makes clear the nature of the case.

The prognosis is good if the stricture can be dilated enough for nutrition to be maintained successfully. If the oesophagus is practically obliterated in more or less of its course, the patient's future depends upon operations, in themselves hazardous. If there is extensive dilatation above the firmly contracted cicatricial stricture the prognosis is serious.

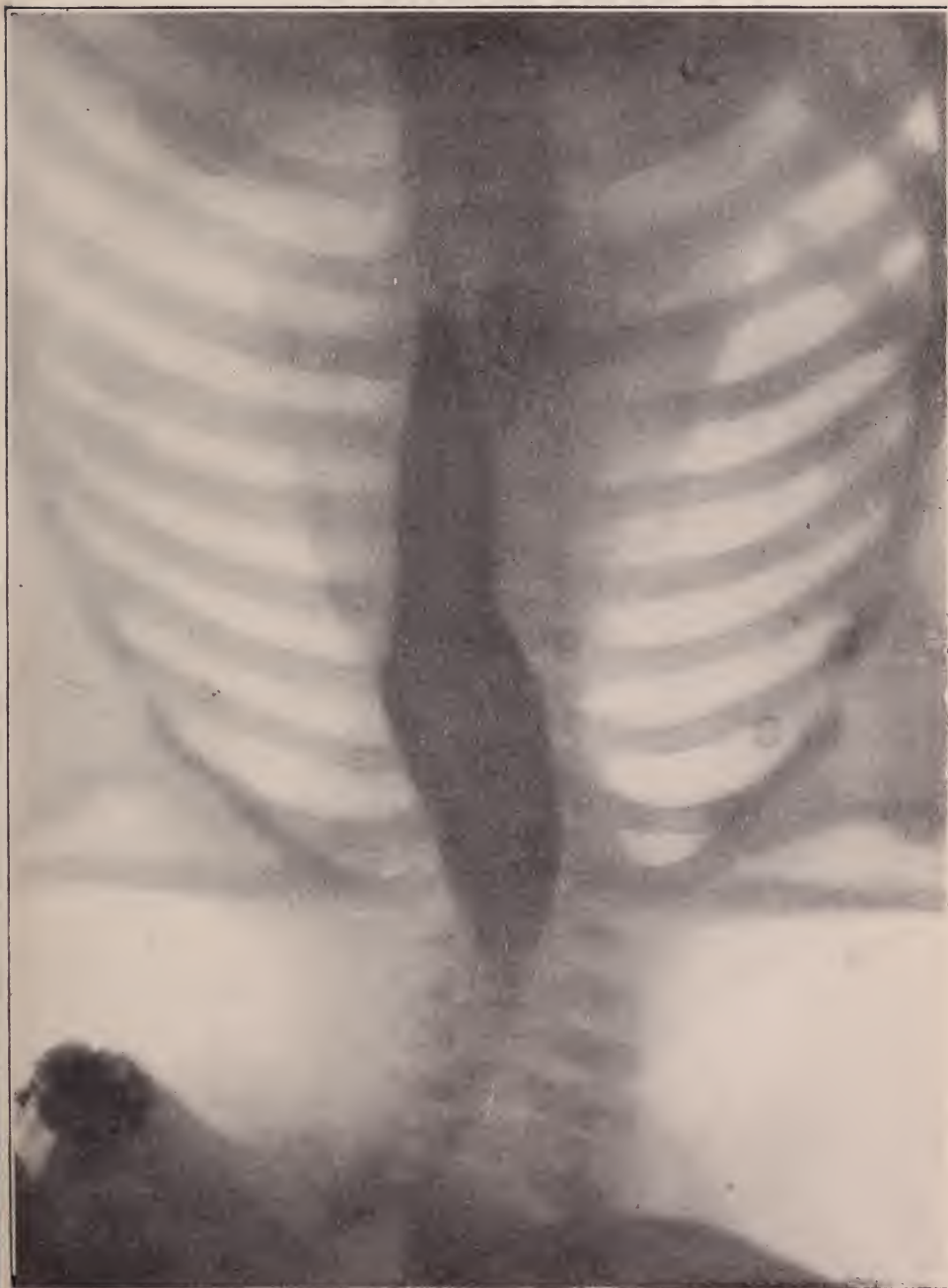
THE PREVENTATIVE TREATMENT OF CICITRICIAL STENOSIS.

Even if no signs of stenosis appear, the systematic introduction of an oesophageal bougie should be begun within about two weeks after the accident of swallowing the caustic fluid. At first the bougie should be passed daily, later weekly, and at longer intervals. When stenosis has already occurred gradual dilatation is employed when it is possible; by means of the passage of bougies using a larger one each day, or every other day until the largest one possible is to be passed at longer and regular intervals, to prevent recurrence, as the tendency is to contraction and recurrence. The bougie should be left in position for several minutes.

In cases where the above methods fail, Abb's method of treatment is employed, consisting in performing a gastrotomy and passing one end of a heavy braided silk string from the opening in the stomach through the oesophagus and out of the mouth by means of some small instrument that will pass the stricture. The string is then made tense and drawn rapidly back and forth until

To Illustrate Dr. Ross' Article on "Case of Traumatic Oesophageal Stricture
in a Two-Year-Old Child."

Albany Medical Annals. January, 1910



the stricture is divided. The gastrotomy wound is then closed. Recurrence is prevented by the frequent introduction of oesophageal bougies. There are other operations advised, which I will not mention in this paper.

Intractable strictures require the establishment of an oesophageal fistula in the cervical region if they are situated high up, or gastrotomy.

The following case which I will report is Miss C. E., age two years. Her present illness dates from June 25, 1909. While playing with some other children making mud pies, C. E. was sent to get some water with which to continue the piemaking. Finding a tin can which had contained Babbitt's lye, she filled the can with water and returned with it to the other children.

After using some of the water the can was set aside. Our patient being thirsty drank of this water, now thoroughly saturated with the lye, which had been left in the can.

The solution being very caustic burned patient's mouth and lips, also oesophagus and stomach.

A physician was called who attended patient about ten days, her condition being apparently much improved.

On July 10th, this being sixteen days after the accident, I was called to see patient who was now unable to swallow anything whatever. She would take one or two mouthfuls of milk or water, which she would try to swallow, filling the already dilated oesophagus to the stricture and regurgitate it. Patient showed signs of considerable emaciation and very weak.

Finding I had a stricture of the oesophagus which might prove to be impenetrable, the patient was taken to the Albany Hospital, where at first it was impossible to pass even the smallest bougie. Following suggestions of Dr. H. L. K. Shaw, that the X-ray might be of value in this case, Dr. Holding, who has charge of the X-ray work at the hospital, was notified and took the picture.

With patient under the influence of chloroform a stomach tube was inserted as far as possible into the oesophagus and then a thick, watery solution of subnitrate of bismuth was forced in as the tube was gradually withdrawn. The picture was then taken.

The picture will show for itself the value of the X-ray in these cases, as it gives precisely the location of the stricture, the dilatation of the oesophagus above it, and the gradual tapering of the oesophagus to a point below.

After the above procedure it was possible to pass a small bougie. Following this bougies of gradually increasing sizes have been passed at first every day; later every two or three days until now I am passing a No. 26 once every week.

The patient is now able to swallow very well; has gained considerable in weight and is doing very nicely now.

Editorial

For his Medicine, there is Herbtwopence, that will cure a hundred Ills; Camomile, to lull a raging Tooth; and the Juice of Buttercup to cleare his Head by sneezing. Vervain cureth Ague; and Crowfoot affords the leaste painfull of Blisters. St. *Anthony's* Turnip is an Emetic; Goosegrass sweetens the Blood; Woodruffe is good for the Liver; and Bindweed hath nigh as much virtue as the forayn Scammony. Pimpernel promoteth Laughter; and Poppy, Sleep; Thyme giveth pleasant Dreams; and an ashen Branch drives evil spirits from the Pillow. As for Rosemarie, I lett it run alle over my Garden Walls, not onlie because my Bees love it, but because 'tis the Herb sacred to Remembrance, and, therefore, to Friendship, whence a Sprig of it hath a dumb Language that maketh it the chosen Emblem at our Funeral Wakes, and in our Buriall Grounds.

ANNE MANNING.

The Household of Sir Thomas More.



A
Study in
Genealogy.

Born in Ignorance — Begotten by Superstition out of Chicanery — Suckled by Blind-Faith, the half-sister of Fanaticism — Wedded to Commercialism, the daughter of Cupidity — The parent of a motley brood of nondescripts whose main virtues consist in their fecundity — This is our present-day *materia medica*. And whose the fault? Why, in sober truth our very own. How many practising physicians are there who prescribe So-and-So's elixir of stuff and nonsense? Dr. This' diuretic? Dr. That's

heart, liver, nausea, or coryza tablets instead of writing an intelligent prescription adapted to the individual case? Who among us owns, and who owning uses a United States Pharmacopœia? We have permitted this book to become, from a medical standpoint, an unwieldy, overgrown, ill-arranged volume, although from the pharmacist's view point a most admirable work. For example, is it likely that however desirable in the pharmacist's mind such hybrid names as hexamethylenamina for urotropin, sulphonethylmethanum for trional, acetphenitidinum for phenacetin and benzosulphinidum for saccharin would have been allowed for drugs in daily use had physicians predominated in the Revision Committee as the constitution of the convention intended they should? We have adopted as facts oft-repeated statements as to drug values, physiologic action and therapeutic effects, what careful study proves to be false. We have listened to the siren song of the detail man and used of his generous samples, educated by the accompanying literature(?). We have received with open arms the manufacturing pharmacist and prescribed his proprietaries, using his nimble wit instead of our own brains. The teacher of materia medica has ignored the pharmacopœia in his class work, and we as a profession have failed in our duty in allowing the pharmacists to predominate in the decennial revisions of our medical bible. And all this has gone on until nihilism walks arm in arm with polypharmacy, ogling "cults" by the dozen as they pass.

The remedy for this unfortunate condition lies close at hand. First let us all read with care Dr. Torald Sollmann's article entitled "The Coming Revision of the United States Pharmacopœia,"* and then let us one and all interest ourselves in sending to the next Pharmacopœial Convention men who will lend their individuality to the proceedings; who will aid in the elimination from the pharmacopœia of useless drugs and who will do their best to make the work as practical, as useful, and as familiar to the physician as it now is to the pharmacist. Let us abandon the proprietaries and, as it is very easy to do, confine ourselves to articles named in the pharmacopœia.

SPENCER L. DAWES.

* Jour. Amer. Med. Ass'n, Nov. 6, 1909. p. 1543.

Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF HEALTH — ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, NOVEMBER, 1909.

Deaths.

	1905	1906	1907	1908	1909
Consumption.	24	13	24	6	17
Typhoid fever	5	2	0	3	3
Scarlet fever	0	0	1	0	0
Measles	0	0	0	0	2
Whooping-cough	0	0	0	0	0
Diphtheria and croup.	0	3	6	3	3
Grippe	0	0	0	0	0
Diarrhoeal diseases	4	0	3	1	1
Pneumonia	10	6	8	13	10
Broncho-pneumonia	10	2	2	5	3
Bright's disease	7	7	16	14	14
Apoplexy	5	10	8	9	7
Cancer	4	3	13	8	8
Accidents and violence.	16	5	6	9	8
Deaths over 70 years.	29	15	43	21	25
Deaths under 1 year.	21	18	10	24	12
<hr/>					
Total deaths	151	123	154	132	142
Death rate	18.36	14.95	18.72	16.05	17.26
Death rate less non-residents.	15.92	14.10	16.17	13.01	15.32

BUREAU OF PATHOLOGY.

Bender Laboratory Report on Diphtheria.

	1905	1906	1907	1908	1909
Initial positive	12	30	15	17	38
Initial negative	29	40	39	20	109
Release positive	13	40	33	2	31
Release negative	16	45	109	19	114
Failed	0	11	9	4	10
<hr/>					
Total	70	166	205	62	302
<hr/>					
Test of sputum for tuberculosis:					
Initial positive			8	2	12
Initial negative			5	13	8

Deaths in Institutions.

	1905		1906		1907		1908		1909	
	Resident	Non-resident	Resident	Non-resident	Resident	Non-resident	Resident	Non-resident	Resident	Non-resident
Albany Hospital	5	7	9	2	14	9	5	15	6	6
Albany County Jail.....	2	0	0	0	0	0	0	0	0	0
Albany Orphan Asylum.....	1	3	1	0	0	0	0	0	0	0
County House	2	0	7	2	1	2	2	0	5	1
Homeopathic Hospital	1	1	3	0	2	1	4	0	1	3
Hospital for Incurables.....		1	0	0	0	0	0	0	2	0
House of Good Shepherd.....	0	0	0	0	0	0	0	0	1	0
Little Sisters of the Poor.....	0	1	1	0	0	1	4	0	1	0
Public places	1	2	1	0	2	4	1	4	1	2
St. Margaret's House.....	2	1	0	0	1	0	1	0	3	1
St. Peter's Hospital.....	4	2	5	2	7	5	5	1	12	2
Home for Aged Men	0	0	0	0	0	0	0	0	0	0
Child's Hospital	1	1	0	1	0	0	0	0	1	0
Sacred Heart Convent.....	0	0	0	0	0	1	0	0	0	0
St. Frances De Sayles Orphan Asylum	0	0	0	0	0	0	1	0	0	0
Austin Maternity Hospital.....	0	0	0	0	0	0	0	0	0	1
Births									107	
Still births									8	
Premature births									0	

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

In the Bureau of Plumbing, Drainage and Ventilation there were one hundred eighty-two inspections made, of which sixty were of old houses and one hundred twenty-two of new houses. Sixty-two iron drains laid, fifty-nine connections to street sewers, fifty-nine tile drains, one urinal, fifty-nine cesspools, eighty-seven wash basins, ninety-six sinks, eighty-two bath tubs, ninety-two washtrays, one hundred twenty-one tank closets. There were one hundred thirty-five permits issued, of which one hundred thirteen were for plumbing and twenty-two for building purposes. Forty-nine plans were submitted, of which two were of old buildings and forty-seven of new buildings. Eight houses were tested with peppermint. There were forty-six water tests. Twenty-one houses were examined on complaint and thirty-four were re-examined. Sixteen complaints were found to be valid and five without cause.

BUREAU OF CONTAGIOUS DISEASE.

Cases Reported.

	1905	1906	1907	1908	1909
Typhoid fever	7	11	5	3	12
Scarlet fever	21	6	18	7	25
Diphtheria and croup.....	16	50	26	12	20
Chickenpox	7	2	5	15	5
Measles	2	0	29	1	109
Whooping-cough	0	0	7	0	3
Consumption	2	1	37	31	29
Totals	55	70	127	69	203

Contagious Diseases in Relation to Public Schools.

	Reported		Deaths	
	D.	S.F.	D.	S.F.
Public School No. 4.....	..	1	..	..
Public School No. 6.....	..	3	..	..
Public School No. 7.....	..	2	..	..
Public School No. 8.....	..	1	..	..
Public School No. 12.....	..	1	..	..
Public School No. 15.....	1	1	..	..
Public School No. 17.....	2	..	..	..
Albany Boys Academy.....	..	1	..	..
St. Joseph's Academy.....	1	..	..	..
St. John's School.....	1	..	..	..
St. Ann's School.....	1	..	..	..

Number of days quarantine for diphtheria:

Longest..... 25 Shortest..... 6 Average..... 13 9/10

Number of days quarantine for scarlet fever:

Longest..... 45 Shortest..... 14 Average..... 28 5/15

Fumigations:

Houses..... 39 Rooms..... 137

Cases of diphtheria reported..... 20
 Cases of diphtheria in which antitoxin was used..... 19
 Cases in which antitoxin was not used..... 1
 Deaths after use of antitoxin..... 2

Bender Report on Tuberculosis.

Positive	Negative	Failed	Total
14	24	0	38

Tuberculosis.

Living cases on record November 1, 1909.....	413
Reported during November, 1909:	
By telephone	0
By Bender	10
By card	7
	<hr/> 17
Dead cases reported by certificate.....	10
	<hr/> 27
	<hr/> 440
Dead cases previously reported.....	8
Dead cases not previously reported.....	10
	<hr/> 18
Living cases on record December 1, 1909.....	422
	<hr/> <hr/>
Total tuberculosis death certificates filed November, 1909..	18

MISCELLANEOUS.

Mercantile certificates issued children.....	31
Factory certificates issued to children.....	14
Children's birth records on file.....	45
Number of complaints of nuisances.....	23
Privy vaults	5
Plumbing	12
Other miscellaneous complaints.....	6
Total number of dead animals removed.....	1,034
Cases assigned to health physicians.....	90
Number of calls made.....	259

Medical News

Edited by Arthur J. Bedell, M. D.

ALBANY GUILD FOR THE CARE OF THE SICK — DEPARTMENT OF VISITING NURSING — STATISTICS FOR NOVEMBER, 1909. Number of new cases, 127; *classified as follows*: Dispensary patients receiving home care, 16; district cases reported by health physicians, 6; charity cases reported by other physicians, 44; moderate income patients, 61; old cases still under treatment, 133; total number of cases under nursing care during month, 260. *Classification of diseases for the new cases* Medical, 51; surgical, 14; gynaecological, 1; obstetrical under professional care, mothers, 26; infants, 25; eye and ear, 1; skin, 1; throat and nose, 2; contagious diseases in the medical list, 13; removed to hospital, 6; deaths, 6.

Special Obstetrical Department — Number of obstetricians in charge of cases, 1; medical students in attendance, 3; guild nurses in attendance, 4; patients, 5; visits by attending obstetrician, 2; visits by students, 36; visits by nurses, 37; total number of visits for this department, 75.

Visits of Guild Nurses (all departments): Number of visits with nursing treatment, 1,266; for professional supervision of convalescents, 264; total number of visits, 1,530. Cases reported to the Guild by two health physicians, and forty-one other physicians. Graduate nurses, seven, and pupil nurses, eleven on duty. During the month twenty-six calls were received for the services of a pupil nurse.

Dispensary Report for November, 1909: Number of clinics held, 92; number of new patients, 123; number of old patients, 464. Classification of clinics held: Surgical, 13; nose and throat, 9; eye and ear, 14; lung, 13; nervous, 4; skin and G. U., 7; stomach 4; medical, 11; children, 11; gynaecological, 8.

THE MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY held a meeting at the County Court House, Union street, December 18, 1909, at 8:30 P. M. Dr. E. H. Ochsner, of Chicago, read a paper on "A Discussion of Probable Causes of Arthritis Deformans — Its Surgical Treatment, and a Discussion of the Various Forms of Chronic Arthritis." An informal reception was given at the Mohawk Club after the meeting.

THE MEDICAL SOCIETY OF THE COUNTY OF RENSSELAER held its annual meeting at the County Court House in Troy on Wednesday evening, December 15, 1909, at 8:30. Dr. Hideyo Noguchi, Rockefeller Institute, New York City, read a paper on "The Wasserman Reaction and Its Application," and Dr. Wm. G. Spiller, Philadelphia, Pa., on "The Diagnosis of Tumors of the Brain and Spinal Cord, Especially with Reference to Surgical Interference."

ANNALS OF SURGERY.—The December number of the *Annals of Surgery* will be the fiftieth volume. Eminent surgeons from England, Scotland, Denmark, France, Italy, Hawaii, Canada, and the United States will contribute to this issue.

THE BOARD OF SUPERVISORS OF MONROE COUNTY has appropriated \$75,000 for the erection of a hospital for the care of persons suffering from tuberculosis. The hospital is to be on the most improved lines and will have a capacity of seventy-five beds.

INTERNATIONAL CONGRESS OF MEDICINE AND HYGIENE.—The preliminary announcement of this congress to be held in Buenos Ayres on May 25, 1910, has been received and gives promise of a most interesting and instructive meeting. Future notices of this session will be given.

ALBANY HOSPITAL.—The annual report and appeal for the year 1909 shows that during the year there was treated in the hospital 3,199 patients.

PERSONALS — Dr. CHARLES F. CLOWE (A. M. C., '88) was appointed Health Officer of the city of Schenectady, by Mayor Charles C. Duryee.

—Dr. O. F. LARSON (A. M. C., '05) is now practicing at Jonesport, Me.

—Dr. MORRIS BELLIN (A. M. C., '09) is at the Hartford Hospital, Hartford, Conn.

MARRIED.—Dr. BERT W. ROY (A. M. C., '08), of Clyde, N. Y., and Miss Nellie M. Beyerl were married in Schenectady, November 13, 1909. Dr and Mrs. Roy sailed on November 20th from New York to Europe, later going to Ranipettae, Madras Presidency, India, where they will engage in missionary work.

DEATHS.—Dr. AARON W. RIKER (A. M. C., '56) died at his home in Fenton, Mich., October 31, 1909, from fatty degeneration of the heart, aged 78.

—Dr. WILLIAM GEOGHAN (A. M. C., '73) died at his home in New York, November 28, 1909, after a brief illness, aged 50.

—Dr. F. M. JOHNSON (A. M. C., '98) died suddenly at his home in Nassau, N. Y.; November 8, 1909.

In Memoriam

DR. ROBERT ELEAZER ENSIGN.

*Read at the New England Alumni Meeting of Albany Medical College,
Springfield, Mass., November 19, 1909.*

BY DR. T. D. CROTHERS,

The adage that the point of view determines the estimate of both individual lives and our appreciations of the facts that are passing in review before us, is always illustrated in an obituary notice. How often we are mistaken in our every-day judgments of men and events, and how often we are forced to change opinions, because a different point of view presents different phases and conditions. Thus it is that cotemporaneous history is always faulty, because the viewpoint is narrow and restrictive.

A different prospective shows men and events in an entirely different

aspect. The history of our Civil War, written during the time of conflict and the excitement of the moment is very different when viewed from the prospective of the present.

The same thing is seen in individuals. Our estimates of prominent men of to-day in our profession will vary widely to-morrow, and the next day. When we get a larger prospective and a broader comprehension of the conditions of their life and work.

This thought forced itself on my mind when I read of the death and burial of Dr. Robert Eleazer Ensign and the kindly remarks by his pastor at the grave. How little they appreciated the man and his life work. They could not do otherwise. He was too near them, and perhaps this is well. It is a pleasure for me to offer a larger view of a humble, quiet, practically unknown physician, who graduated from the Albany Medical College in 1857, and who spent forty-two years of his life in the hill villages and farming communities of Connecticut.

Robert Eleazer Ensign was born in West Hartland, Conn., February 25, 1834, and was the second child of Eleazer and Harriet Bosworth Ensign. His grandfather on his mother's side was a physician of West Harland, and died at the age of 90. His father was a surgeon in the English army who settled near Boston soon after the French and English War. Dr. Ensign's father was a merchant, and later a manufacturer.

The doctor attended school at Westfield, Mass., and later graduated from the Suffield Literary Institute in Connecticut. He began life as a teacher and was trained at the State Normal School at New Britain. For several years he taught in various high schools of New Jersey and Connecticut.

Finding the confinement of school life impairing his health, he took up the study of medicine, under the care of his cousin, Dr. Charles Ensign, of Tarrifville, Conn.

In 1855 he entered the Albany Medical College and graduated in 1857, and began practising at Poquonock, Conn. The same year he married Miss Emma A. Hathaway of that town, who survives him. In 1861 he entered the army as assistant surgeon in the Sixth Conn. Volunteers. Six months later he was obliged to resign on account of disability from acute dysentery and malaria.

He returned and settled in the hill town of Harwington, Conn., and again began the practice of medicine. He was made a school visitor and was sent to the Legislature, and occupied other prominent positions in the town. He was appointed medical examiner, pension surgeon, member of the Grand Army and surgeon of the post for many years.

In 1870 he moved to Windsor and from there to Berlin, Conn., where he remained until death, March 29, 1909. He joined the State Medical Society in the early seventies and was an active member in the county society. He was also a Mason and a member of the Episcopal Church.

Of the five children born, two died in infancy. A daughter whom he idolized grew up to thirty years of age, then died suddenly. Her death made a profound impression on his life. Two sons survive him; both prominent business men.



ROBERT ELEAZER ENSIGN, M. D.

Albany Medical Annals
January, 1910



Dr. Ensign's practice was confined to three different towns adjoining each other, and in each one he was a prominent man and had a wide circle of friends.

He was one of the charter members of the New England Albany Alumni Association, and was enthusiastic to keep alive the memories of the college, and was always interested in the graduates, the new faculties, and everything that was said concerning the work.

He probably visited the general Alumni Association at Albany once or twice during his life. Dr. Ensign was particularly a retiring and unobtrusive man, seldom volunteering an opinion, but always an attentive listener. He spoke directly to the point, used few words, and they were usually put into an interrogative form, and practically solicited and suggested the opinions of those about him.

He was a very keen observer of men and events, and had very clear ideas of the significance of affairs. He was deeply sympathetic, both in manner and in words. He dressed neatly, had a good equipage and always seemed to be a man of great leisure, never disturbed, but always willing to listen.

Most of his life was occupied with a large practice, and his work was done with quietness, and absence of all assertiveness, which was often misinterpreted as weakness. When criticized by his patients he was unruffled, bland and courteous. Persons acquainted with him recognized a peculiar strength of will and purpose and sound judgment that could not be wavered or changed.

Boisterous neighboring doctors were always ashamed of any advantage they took of him because he never showed any resentment, and was always the same quiet, courteous man. He never boasted, but always suggested inquiries which drew out the opinions of others, and kept his own views in reserve.

It was noticed that notwithstanding all the influence of others, or advice given, he acted on his own judgment and made no explanations or attempts to harmonize with others. His quiet, scholarly ways, growing out of his early teaching life, gave him a certain superiority that was recognized. As a practitioner he seemed to others as old fashioned, and while he used many remedies popular long ago, he was fully aware of the latest therapeutic measures, and used them with excellent reasoning.

He kept copious notes, although he did not write anything for the press. He was a great reader of general literature and a good judge of intellectual work, particularly in medical journals. He knew what was science and what was theory, and often expressed himself very clearly on this point.

When called on at the medical society he spoke with unusual clearness and force, showing that he realized the topic and its limitations.

My acquaintance with him, extending over many years, began with a very interesting case. A prominent man was suffering from a heat stroke, and was unconscious for several days. This was followed by extreme debility, for which the physician prescribed spirits and milk as a tonic and stimulant.

Later a low muttering delirium began, and many consultations were held. Two experts from New York pronounced the case chronic meningitis, and recommended the continuance of the stimulant treatment. The case finally came under the care of Dr. Ensign, who diagnosed the delirium as coming from alcohol, and to sustain him in this opinion I was called in.

Consultations were held, in which nearly all the leading physicians in the neighborhood expressed opinions. Finally, Dr. Ensign, on my advice, assumed the responsibility, and the stimulants and drugs were withdrawn. The improvement was so marked, that the family placed the case entirely in his hands.

Different combinations of sulphate of magnesia, with baths and limited diet, resulted in the full recovery of the patient. I noted in this a rare diagnostic ability, almost intuitive. His methods were entirely by exclusion. He would group all the symptoms on his note book and put down opposite the disease that they might indicate, and then exclude one by one. His careful study would be aided by interrogative questions and suggestions to other practitioners.

In this there was something so scientific and rational as to call out my warmest admiration, and this was many years ago, before this method had become prominent. From that time on I have had many opportunities to admire his rare medical judgment, which was not public in dramatic recoveries and widely talked of events in every-day practice.

On another occasion a delirious suicidal patient with an alcoholic basis was about to be sent to an insane asylum. The doctor had him taken to an isolated farm house, and placed under the care of a strong attendant, with vigorous treatment of baths, exercise, low diet. The man recovered. Dr. Ensign had practically discerned the toxemic causes as active in this case. In this and in many other cases, there was a vein of fine common sense in which he estimated men and events clearly and accurately. He was never credulous or skeptical, but seemed always to be open to hear anything and withhold his judgment.

The influence of the Albany Medical College was very marked on his medical life. He often spoke of Dr. Marsh's directness and concise thought and manner. Dr. McNaughton was probably his ideal of a practitioner, and Cullen's Practice, which was McNaughton's text-book, was the guide of Dr. Ensign.

There was a fine vein of common sense running through that book, and I think that Cullen and Austin Flint were the two great books of practice that he followed. He was familiar with all the modern books, but evidently they did not attract him. As a school visitor, as a member of the Legislature of Connecticut, and as a post surgeon he was conscientious, exact and faithful in every particular. As a general practitioner he did all the work that came to him. In later years he turned the surgery over to more expert men, but his experience covered the whole field, and like all other country physicians he was the advisor in almost every condition of life, acting as a clergyman, saying prayers at the bedside, in writing wills, advising in veterinary matters; was

a chemist, determining poisons, and officiated in almost every condition of life that the old-time surgeon was called upon.

Like most medical men, he was generous to the last degree; was a leader in all benevolent schemes, and foremost in all charitable work, and of course failed to lay up much money.

His gratitude for the culture and inspiration which he received at Albany was never forgotten, and had it been in his power the old college would have been the recipient of any donations he would have made.

During the last few years the Hartford City Medical Society has had some of the most distinguished physicians in the country to deliver addresses and papers before them. It was always a great pleasure for me to secure the opinion of Dr. Ensign after hearing one of these lectures.

While naturally a shrinking man, and averse to criticism, he often expressed to me his opinions in words like these:

"No inspiration in the lecture. No personality, and an entire bookish product. The work of an egotist. A laboratory talk. Impractical, unreal. In the clouds. No one could follow him. Too much science. Too little sense." Then he would add: "Old Dr. March would have put that matter right, or Drs. McNaughton, or Barker or Reese."

This, to my mind, was the clearest kind of criticism on many of the products of leading men that we do not consider at the time. There are excellent men in the profession who are thoroughly learned, but are neither teachers nor students in the broadest meaning of the words. Their exhaustive studies, and theories, and laboratory technique, might just as well be put in Greek and Sanscrit as far as any inspiration or helpfulness which they give to the listener.

Dr. Ensign was an example or type of many physicians whose narrow life and circle make them practically unknown, and yet their fidelity and earnestness is entitled to as much recognition, and the work they accomplish is as great in degree as that of the most learned leader and teacher in the profession. We may say of him that the profession in his neighborhood was made better by his exceptional character and dignity, quiet reserve, scientific spirit and example.

Medicine to him was a continuous study of causes and effects. There were no miracles, or no conditions that could not be seen or prevented. He was a teacher of hygiene and preventive medicine, who at all times and seasons taught the ideal life and the possibilities of rising above the aches and pains of the present.

He died from sclerosis, incident to old age. I think we do well to gather up the memories of these quiet, unobtrusive men who in their narrow circles do so much to make the world better, and who bring out and teach in many ways the ideals for which we are all striving. He was a noble example of what a medical college can do, and how far teachers can rouse and cultivate a scientific spirit, a true manhood and ideal, for a great doctor-teacher who should take up the work as he finds it, and leaves the world better for having lived.

It is a source of congratulation to us all that so many genuine true men have caught the real inspiration and the great impetus of life at the Albany Medical College, and have gone on exemplifying it in many ways, largely unknown.

WILLIAM GEOGHAN, M. D.,

1852-1909.

Dr. Geoghan's death was sudden and unexpected. The writer of these lines saw him on Saturday afternoon and it so happened that Judge Albert Hessberg, of Albany, was present at the time. There was a pleasant conversation of brief duration regarding Albany of auld lang syne, a hearty adieu, and the following morning a telephone message conveyed the information that Dr. Geoghan was no more. Dr. Geoghan was in my office Friday and left at 2:30 P. M., stating that he felt chilly and feverish, and on being advised to go home and take a rest and prepare for the oncome of a probable attack of grippe, he left, saying that he would do so. He must have felt better, for on the following day, Saturday, he was around and about, attending to his usual professional duties. Saturday, after leaving my office subsequent to the incident above related, he went to his home, took some coffee and toast and after office hours that night he visited a friend with whom he remained until 11 o'clock. He returned home and after taking his pet dog out for an airing, he went to bed, first assuring his wife that he felt no worse than he had during the day. At 6 o'clock in the morning his wife came into his room and found him lifeless.

Dr. Geoghan was born November 14, 1852. At the age of 16 he graduated from the Albany Academy, and later entered the Albany Medical College, from which institution he graduated in 1873. Shortly thereafter he commenced the practice of his profession in Albany. In 1883 he moved to New York, there to continue his medical career. He entered a civil service contest, as the result of which he was accorded an advanced place on the list of availables and shortly thereafter was appointed examiner for the Municipal Civil Service Board. He served in that capacity for a number of years and later, when a change in politics occurred, he was peremptorily dropped from his position and never again entered the public service. He devoted himself to his practice and during the later years of his life acted as medical examiner for two of the leading New York life insurance companies.

Dr. Geoghan was a man of positive convictions and of indefatigable application. He was an omnivorous reader and had so retentive a memory that those who knew him best declared that he knew more about most subjects than any man who was not a specialist. There was no topic, professional or scientific, which he was not able to discuss intelligently. To show the fertility of his mind, it is interesting to note that within a month preceding his death, he commenced the study of agriculture from a scientific standpoint—merely for his own informa-

tion — and during that time he was spending every moment of his otherwise unengaged time in the perusal of agricultural reports issued by the various national and state departments. He was an expert photographer, a trained microscopist, a superior mathematician, a connoisseur in art, an epicure in literature and a student of political economy, thoroughly familiar with the writings and with the views of churchmen and of socialists, of radicals and of conservatives and moreover well informed as to international politics. The histories of the various countries of the world were as an open book to him.

The doctor had no patience with men of fads. Sham to him was an abomination. He had but few friends, but his loyalty to them was unflinching. In the days of his early manhood in Albany he was an intimate of that prince of fellows, Hugh Reilly, and their characters were very much akin although their natures were far different. In his youth, Geoghan was the leader of the "gang." He earned his position because of his physical prowess and fear was unknown to him, no matter what the situation. He was as strong as a lion and as fearless as a toreador. I recall an incident of my boyhood when I was a toddler and he was the leader. It was the night before election. A huge bonfire illumined Broad street near Westerlo, almost directly in front of the alley back of my father's house. There were but four or five members of the crowd around the fire, the others having been sent out on foraging expeditions. The outposts announced the approach of the South End gang and presently they were in evidence, twenty or more in number. A huge barrel with iron staves about it was in the center of the bonfire and the flames were leaping high in air through this recent addition. Geoghan was there with a heavy shinney stick in his hand. The leader of the rival forces said "We're going to take that barrel." Geoghan answered: "Do not do it or you'll get hurt." Nothing daunted a stockily built fellow of the rival gang reached out his hand and placed it on the barrel with the purpose of pulling the latter from the fire. Geoghan's stick fell on his fingers just as he was clutching the rim of the blazing barrel and two finger ends were added to the sizzling flames. A battle royal followed. Our reinforcement came to the rescue and the enemy was routed, Geoghan leading the onslaught.

During his residence in New York there were a number of occasions when his strength and his fearlessness stood him in good need. One day he was making calls on his wheel. A youthful but half inebriated truckman was driving along Seventh avenue and noticing Geoghan on his wheel, trying to extricate himself from a tangle of vehicles, directed his horses so as to "pocket" the Doctor. The latter jumped from his bicycle when he found he could not proceed farther and upbraided the driver in no uncertain terms. The latter leered and jeered at him, whereupon Geoghan invited him around the corner, away from the crowd, promising to give him a good lesson which might help to mend his manners. The driver jumped from his perch with alacrity to accept the invitation. He was a great raw-boned, husky fellow, taller than Geoghan by several inches and young enough to easily have been the Doctor's son. It took

less than two minutes to end the fistic argument, at the end of which time the driver was in the middle of the street on the flat of his back and the Doctor was winging away to attend to his belated duties. I was with him one day on an elevated train. A man sat in one of the side seats with his feet so crossed that the garments of no one passing him were safe from defilement by his dirty boots. Geoghan stepped from his seat and deliberately uncrossed the man's legs and when the sinner protested and showed symptoms of resentment the Doctor slapped his face twice and told him to remember thereafter that people's clothes were not meant to be soiled by the boots of one who acted like a yokel in a public conveyance. With all this I never knew him to be an aggressor in any quarrel in which he was involved unless some principle was at stake. Dr. Geoghan was a great lover of animals and woe betide anyone ill-treating a dog or misusing a horse when he was in evidence.

Anxious to visit the old world and the homes of his ancestors, Dr. Geoghan, several years ago, made a trip to Europe. His financial resources were limited and he was forced to take less than first-class passage. His wheel was his only companion and in the short time that he was abroad he probably saw more of Europe than the average man could accomplish in twice the time. He spent two weeks in London, nightly visiting the historic haunts of England's great literary characters of long ago. He traveled through Ireland and through part of Scotland, and then went to the continent visiting France, Germany and Austria, traveling almost continuously on his bicycle so that he might come in close contact with the inhabitants of the various countries so as to learn their customs, their habits and their manners. He could speak and read almost every one of the modern languages and by this means he enlarged his already bounteous knowledge of things and of people.

Notwithstanding his great familiarity with scientific matters generally, Dr. Geoghan did not neglect the study of medicine, but, per contra, kept fully abreast of the times and knew all that modern teaching could expound. Five or six years ago he took a special course in pathology and in bacteriology merely to be afforded opportunity in the laboratory to put to a practical test the new theories and new facts which had come to be a part of medicine since his days at the Albany Medical College.

Six or seven years ago he was elected president of the New York Alumni Association of the Albany Medical College, and the annual banquet at which he presided was one of the most pleasant and one of the most largely attended affairs in the history of the organization. He was one of the twenty-four founders of the Albany Society of New York and at one time was its secretary, and has continuously been one of its Board of Governors. He was a member of the New York County Medical Society.

Like his father whom many of the older physicians of the state will remember as a genial, learned physician and an amiable companion, Dr. Geoghan was a Democrat in politics, although he voted for Roosevelt and was a great admirer of Governor Hughes.

He married Alice E. Killacky, April 28, 1896. They have no offspring.

As I make a mental review of the subject of this sketch there comes to me the thought that as far as his dealings with his fellow men were concerned, there is no act in the extinguished life of William Geoghan which was not as it should have been. A giant intellect in massive frame, a loyal heart, an unflinching will, an aggressive, yes, even a combative spirit if occasion warranted, a fearless advocate, a kindly and a learned physician, a royal and a loyal friend, a devoted son, brother, and husband—such were the qualifications which marked the career of William Geoghan, so effectually that to those who knew him his memory will ever be green.

MAURICE J. LEWIS.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

Organic and Functional Nervous Diseases. A Text-Book of Neurology. By M. ALLEN STARR, M. D., Ph.D., LL. D., Sc. D., Professor of Neurology, College of Physicians and Surgeons, New York; ex-President of the New York Neurological Society. Third edition, thoroughly revised. Octavo, 904 pages, with 300 engravings and 29 plates in colors or monochrome. Cloth, \$6.00, *net*; leather, \$7.00, *net*. Lea & Febiger, Philadelphia and New York, 1909.

The first part of this text-book is devoted to a systematic and comprehensive discussion of the general aspects of neurology, the method of examination of a patient and the general symptomatology of nervous diseases. Each symptom is in turn taken up and its clinical characters, underlying pathogeny and diagnostic significance clearly set forth. Special attention is given to the focal symptoms of central nervous disease and the whole question of cerebral localization with its recent and important advances is very carefully and completely treated. It is thus with an excellent preliminary conception of general facts that the reader undertakes the more exhaustive study of any one individual disease. The merits and advantages of this plan are inestimable.

In part II the organic diseases of the peripheral nerves, the spinal cord and the brain are taken up in regular sequence and numerous pictures of typical cases accompany the description of cardinal objective symptoms. The diseases of vascular origin are preceded by a brief reference to the cerebral and spinal circulation. The author discusses under a separate heading what he terms the general diseases of the nervous system: multiple sclerosis, syphilis of the nervous system, caisson disease, pachymeningitis, meningeal hemorrhage and cerebral meningitis.

In part III the various functional nervous diseases are fully described

and the treatment of hysteria and neurasthenia receives a particularly exhaustive and detailed consideration.

Part IV is concerned with the diseases of the sympathetic nervous system and a critical analysis is made of the many complex and often conflicting theories which have been advanced regarding their pathogeny.

The chapter on neuritis, multiple neuritis, poliomyelitis, myelitis and myelomalacia, locomotor ataxia, compression of the spinal cord, tumors of the brain, the cranial nerves and their diseases, are exceptionally complete and well documented. On the other hand, relatively meagre consideration is given to syphilis of the nervous system, general paresis, multiple sclerosis, combined sclerosis, the cerebral atrophies of childhood and the various forms of meningitis.

The abundant space given to the pathological anatomy of nervous diseases and the numerous and excellent plates and figures devoted to its illustration constitute a feature which cannot be too warmly commended.

On the whole, it is questionable whether this book is well-suited to the needs of the undergraduate. Like so many others, it is rather too voluminous for this purpose. As a work of reference, however, and as a text-book for post-graduate instruction, it is admirably fitted and highly recommendable.

LASALLE ARCHAMBAULT.

A Text-book of Practical Therapeutics. With especial reference to the application of remedial measures to disease and their employment upon a rational basis. By HOBART AMORY HARE, M. D., Professor of Therapeutics in the Jefferson Medical College of Philadelphia. Thirteenth edition, thoroughly revised. Octavo, 951 pages, with 122 engravings, and 4 full-page colored plates. Cloth, \$4.00 net; leather, \$5.00, net; half morocco, \$5.50, net. Lea & Febiger, Philadelphia and New York, 1909.

The medical profession are so thoroughly acquainted with Dr. Hare's Text-book of Therapeutics that very little need be said in commendation of this last edition. When we consider the multitude of new methods of treatment which are brought forward every year and the constant modifications of the old methods of treatment, we can appreciate the value of a text-book of therapeutics which for the time being has been thoroughly brought up to date. The value of many of the new remedies have been studied by the author in the laboratory and at the bedside, and the results of his own personal experiences are presented as well as the thorough review of the literature. There is a chapter on the use of diphtheria antitoxin and the newer antitoxins of gonorrheal infections and cerebro-spinal meningitis. The results of recent researches on anaesthetics, both local and general, have been included. The book has a wide field of usefulness and should be in the hands of every student and practitioner.

G. E. B.

A Treatise on the Principles and Practice of Medicine. By ARTHUR R. EDWARDS, M. D., Professor of the Principles and Practice of Medicine and Clinical Medicine in the Northwestern University Medical School, Chicago. New (second) edition, thoroughly revised. Octavo, 1246 pages, with 100 engravings and 21 full-page plates in colors and monochrome. Cloth, \$5.50, *net*; leather, \$6.50, *net*. Lea & Febiger, Philadelphia and New York, 1909.

The present edition of Dr. Edward's work is even more comprehensive than the first. On the title page we note that it is said to be thoroughly revised, yet some recent advances in diagnosis and treatment are unnoted, although the index indicates an intention to give the work an encyclopedic scope. Among important matters which are not discussed are modifications of the diet in typhoid fever, such as those proposed by Shattuck, Coleman and Shaffer. Recent contributions to medical literature on the subject of tuberculosis do not seem to have been used fully, and some important matters in connection with this disease are treated inadequately, such as the necessity of making the patient cough during auscultation of the lungs, the dangers of forced feeding and the value of exercise in the treatment of selected cases.

Some statements are open to question or would be difficult to prove. The author evidently believes that the Widal reaction is absolutely diagnostic of typhoid fever, and that lymph gland tuberculosis is always due to infection with the bovine type of tubercle bacillus. He reports also that in four cases of which he has personal knowledge miliary tuberculosis resulted from the use of tuberculin, a difficult matter to demonstrate. The numerous formulae given are not all free from the suspicion of polypharmacy.

In spite of minor defects the work will undoubtedly be found a useful and convenient text-book by many practitioners.

A. T. L.

Practical Dietetics, with Special Reference to Diet in Disease. By W. GILMAN THOMPSON, M. D., Professor of Medicine in the Cornell University Medical College in New York City, Visiting Physician to the Presbyterian and Bellevue Hospitals. Fourth edition, Illustrated, Enlarged and Completely Rewritten. New York and London: D. Appleton & Company, 1909.

The practical application of dietetics to disease is the aim of the author in the present as in the former editions of this well known work. Vague directions given in indefinite language are common enough in standard text-books on practice, but in this work the author endeavors to furnish *detailed* directions regarding each disease at all influenced by right feeding. The practitioner is warned against the common dietetic error of too long continuance of a dietary which, although at first beneficial, may result in anemia or asthenia, by failing to meet the complex demands of the system, and is frankly told that it is rarely feasible to feed the

sick upon any system based on accurate food weighing, laboratory calculation of calories or the results of single analyses of gastric contents. The problem of right feeding in disease must be studied in the light of clinical experience. The main divisions of the book are: 1, Foods and Food Preparations; 2, Stimulants, Beverages, Condiments; 3, Cooking—Food Preparation and Preservation, The Quantity of Food Required; 4, Special Conditions Influencing Food; 5, Food Digestion—Conditions which Specially Affect Digestion; 6, The General Relation of Food to Special Diseases, Diseases which Are Caused by Dietetic Errors; 7, Administration of Food for the Sick; 8, Diet in Disease, Diet in Infectious Diseases; 9, Rations, Diets. Appendix.

In this review it would be impossible to mention specifically the many valuable features of the work. In regard to feeding in typhoid fever the author is conservative, although recognizing the value of the systems prepared by Shattuck of Boston and Coleman and Shaffer of New York. He does not favor an exclusive milk diet as routine for all cases. While giving full details of methods of forced feeding in tuberculosis of the lungs, the author properly asks the question whether it is not possible to overfeed patients in this manner. The sentiment in favor of suralimentation is not as strong as formerly. For ulcer of the stomach he recommends the gradual resumption of mouth feeding after a day or two of complete rest for the stomach, but states that the nourishment should be given exclusively in liquid and predigested form. For the convenience of description of the dietetic treatment of diabetes he divides cases into three classes. In the first class the dietary treatment is productive of the greatest benefit. The second class is also amenable to dietetic treatment, but the benefit is not so immediate nor so great as in the first class. In the third class dietetic treatment is much less successful, but should be undertaken to prevent the patient from growing worse. In diabetic patients over fifty years of age the author alternates periods of restriction and relaxation in dieting. In a strict diet sugar, starch, shell fish, liver, are all forbidden. Detailed tables are given. Two very interesting chapters are given on the feeding of infants. "Practical Dietetics" should certainly be in the library of every practitioner.

A. T. L.

Tumors of the Kidney. Renal, Ureteral, Perirenal and Adrenal Tumors and Actinomycosis and Ethinococcus of the Kidney. By EDGAR GARCEAU, M. D. 419 pages, with 72 illustrations in text. D. Appleton & Company, New York and London, 1909.

In the preface to this work the writer calls attention to the great difficulty in deciding upon a proper classification and he believes that many of the older tables of tumors of the kidney must be disregarded because the classification is confusing. He has attempted to present in this work only that which has stood the test of the microscope.

In the chapter on carcinoma, sarcoma and adenoma of the kidney,

only those tumors were described which were at the disposal of the writer in the Massachusetts General and Boston City Hospitals. These cases were most carefully studied at these hospitals by the regular corps of pathologists. The microscopic section of the tumors have all been preserved and the filed reports of the cases have been kept.

Chapter I of 149 pages is devoted to the solid tumors of the renal parenchyma; chapter II of thirty-five pages, to embryonic tumors; chapter III of fourteen pages, to tumors of the renal pelvis and ureter; chapter IV of twenty-eight pages to polycystic kidney; chapter V of three pages, to simple serous cysts of the kidney; chapter VI of ten pages, to perirenal tumors; chapter VII of nineteen pages, to adrenal tumors in adults; chapter VIII of seven pages to adrenal tumors in children; chapter IX of sixteen pages, to actinomycosis of the kidney; chapter X of thirty pages, to echinococcus of the kidney, and chapter XI of forty pages, to the determination of renal efficiency.

The general plan of each chapter is to present the subject under consideration in the following order: its etiology, pathology, symptoms, diagnosis, prognosis and treatment.

The chapter on the determination of renal efficiency should prove of great value to clinicians because here the writer carefully describes the various methods at our disposal: as the general examination of the patient; what may be learned on cystoscopic examination; methods of separating the urine from the two kidneys and examining them; tests for determining the functional activity of the two kidneys as, the phloridzru test, the cryoscopic test of the urine and the blood, the mythyline blue test, Albarran's polyuric test and finally exploratory incision.

The general make-up of the work is excellent. The illustrations, although few in number, are good, the micro-photographs being particularly good.

The work should prove of interest and value to pathologists and to clinicians interested in diseases of the kidneys.

J. A. S.

International Clinics. A quarterly review of illustrated clinical lectures and especially prepared original articles on Treatment, Medicine, Surgery and the Specialties, by leading members of the medical profession throughout the world. Edited by W. T. LONGCOPE, M. D., Phila., Pa. *Volume I, Nineteenth Series*, 1909. J. B. Lippincott Company, Phila. and London.

This volume contains the usual series of excellent articles on the various branches of medicine and surgery, also a review of "the progress of medicine during the year 1908."

Lawrence F. Flick, in an article on *The Hospital for Advanced Cases of Tuberculosis*, expresses the belief that in the struggle of this generation to bring tuberculosis under control, the task will be accomplished through "humane isolation."

Diagnosis of Gastric Dilatation, by David Sommerville, London, places the main reliance on the objective symptoms in arriving at a diagnosis of pyloric obstruction or gastric atony or both as prime factors in gastric dilatation. He places high value on Radioscopy in these conditions.

One of the most readable articles is by Doctor A. David Willmoth, of Louisville, Ky., on "Conditions modifying Operative Work." He treats the subject under the following heads— Heart Disease, Kidney Lesions, Pyuria, Glycosuria, Shock, Hemorrhage, Anaemia, The Nervous System, Bleeders, Cachexia, Pregnancy, Age, Obesity, Condition of the Lymphatics, Tuberculosis and Syphilis.

H. D. C.

International Clinics. A quarterly of illustrated clinical lectures and especially prepared original articles on treatment, medicine, surgery and the specialties, by leading members of the medical profession throughout the world. Edited by W. T. LONGCOPE, M. D., Philadelphia, Pa. *Volume II, Nineteenth Series*, 1909. Published by J. B. Lippincott Company, Philadelphia and London.

This volume contains among many helpful articles the following ones of special interest:

Immunization Against Typhoid Fever, with a study of preventive inoculation, by Harlan Shoemaker, Phila. The subject matter particularly pertains to travelers or soldiers proposing to visit tropical climates. His conclusions are:

1. Unquestionable evidence regarding the immunity conferred by inoculation.
2. Two or more inoculations are necessary to make the immunity of some duration.
3. More investigation of the blood of typhoids for the strength and duration of protective substances is necessary.
4. At present the method of determining the strength of a vaccine is liable to considerable error.

"Tuberculous Serafibrinous Pleurisy and Its Treatment," by Herman B. Allyn, of Philadelphia. Quite an encyclopedic article on this old, familiar subject.

Quite a readable article is that by Geo. M. Niles, of Atlanta, Ga., on "Some Remarks on Hyperchlorhydria."

"The Treatment of Abscess in Hip Disease, with a Report of Cases," by H. Schwatt, of New York, is full of interest. He sums up with the following conclusions:

1. The prompt evacuation of abscesses in hip disease as soon as they become palpable does not rest upon a rational foundation, and should not be resorted to.
2. Absolute non-interference cannot be accepted as an invariable rule of treatment.

3. The formation and extension of abscess can be averted in large proportion of cases by effective protective treatment of the joint disease.

4. The treatment of the sterile abscess as a complication of hip disease should be principally expectant, and should consist in fixation of the joint, rest in bed with extension, tonic drugs, diet and good hygiene.

H. D. C.

Clinical Treatises on the Symptomatology and Diagnosis of Disorders of Respiration and Circulation. By PROFESSOR EDMOND VON NEUSSER, M. D., Professor of the Second Medical Clinic, Vienna; Associate Editor NOTHNAGEL'S *Practice of Medicine*. Authorized English Translation, by ANDREW MACFARLANE, M. D., Professor of Medical Jurisprudence and Physical Diagnosis, Albany Medical College; Attending Physician to St. Peter's and Child's Hospitals and Albany Hospital for Incurables. *Part III, Angina Pectoris*. New York, E. B. Treat & Company, 1909.

This little volume of seventy-one pages contains many helpful suggestions regarding the diagnosis of stenocardiac attacks. When the cardinal symptoms, retro-stenal pain and the fear of impending death, are present the diagnosis is comparatively easy, but the rudimentary seizures or those complicated through accessory symptoms are more difficult to recognize. Often the pulse and respiration are absolutely unaffected, and the blood tension may be high or low. The sudden onset, the short duration of the attack, the pallor of the face and the freedom from distress during the intervals between attacks are important points to remember. Regarding etiology, the best known causes are stated to be organic affections of the aorta accompanied by stenosis of the coronary valves, ischemia of the myocardium, pressure on the cardiac nerves, tabes dorsalis and syphilis. Functional angina may be caused by gout, diabetes, lead poisoning, epilepsy and tobacco poisoning. Beside the commonly accepted arterial theory, of the causation of organic angina pectoris, the author presents a "nerve theory" which implies a disturbance in some portion of a circle consisting of the spinal center of innervation, the rami communicantes, the cardiac nerves, the aortic plexus and the coronary plexus with the sensitive terminal organs in the walls of the vessels. The book will be found to be a useful clinical monograph.

A. T. L.

Text-Book of Hygiene. By GEORGE H. ROHE, M. D., and ALBERT ROBIN, M. D. Fourth edition, revised and enlarged. F. A. Davis & Co., Philadelphia, 1908.

The aim of the authors in presenting this book has been to place in the hands of the student, practitioner and sanitary officers a trustworthy

guide to the principles and practices of preventive medicine. With the advances that have been made in this field in recent years, the authors have found it necessary to thoroughly revise this work and to add several chapters and entirely re-write others, so that it has been brought thoroughly up to date. In the preparation of the work the authors have secured the assistance of other men, each one eminent in his special field. The book contains 582 pages and is a satisfactory and thoroughly up to date work upon this subject.

G. E. B.

Minor and Operative Surgery, Including Bandaging. By HENRY R. WHARTON, M. D., Professor of Clinical Surgery in the Woman's Medical College, Philadelphia. New (seventh) edition, enlarged and thoroughly revised. 12mo, 674 pages, with 555 illustrations. Cloth, \$3.00 net. Lea & Febiger, Philadelphia and New York, 1909.

This work of 683 pages presents a concise treatise of minor surgery. In Part I is described the methods of preparation of bandages and their manner of application. In Part II the minor surgical procedures, the indication and usage of anaesthetics, treatment of hemorrhage and shock, and minor surgical lesions are considered in detail. Part III treats of sepsis and antisepsis; Parts IV and V of fractures and dislocations; Parts VI, VII and VIII of special operations and their indications. The illustrations for the most part are satisfactory, and the book should be found useful alike to the student and the general practitioner, who is frequently called upon to perform these minor operations. The fact that the work has gone through its seventh edition speaks well for its value.

G. E. B.

Parenthood and Race Culture. An Outline of Eugenics. By CALEB WILLIAMS SALEEBY, M. D., Ch.B., F. Z.R., Edin. Moffat, Yard & Co., New York, 1909.

This book is an attempt to define as a whole the general principles of race culture or eugenics. The subject is presented in an attractive way and it should be of interest and value to physicians and students of medicine.

G. E. B.

Thornton's Pocket Medical Formulary. New (9th) edition. Containing about 2,000 prescriptions, with indications for their use. In one leather-bound volume. Price, \$1.50 net. Lea & Febiger, Philadelphia and New York, 1909.

G. E. B.

The Principles of Pharmacy. By HENRY V. ARNY, Ph.G., Ph.D., Professor of Pharmacy at the Cleveland School of Pharmacy, Pharmacy Department of Western Reserve University. Octavo of 1175 pages, with 246 illustrations, mostly original. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, \$5.00 net; half morocco, \$6.50 net.

While Dr. Arny's book can not prove of great use to the average practitioner of medicine, it must of a certainty be highly valued, not only by the practicing pharmacist, but by the teacher of that branch of medical science. The clearness, the completeness, the accuracy, and the logical arrangement of the subject matter, whether original or obtained from others, to whom, by-the-way, full credit is given, will alone stamp it as an unusual book and one well worthy of the author whose name appears on the title page.

SPENCER L. DAWES.

Human Physiology. An elementary text-book of Anatomy, Physiology, and Hygiene. By JOHN W. RITCHIE, Professor of Biology, College of William and Mary, Virginia. Illustrated by Mary H. Wellman. Yonkers-on-Hudson, New York, World Book Company, 1909.

The "chief object" of this book, according to its author, "is to train the pupils to keep their bodies in health." He has, therefore, followed out the same plan in this book that he follows in his teaching, he combines both anatomy and physiology in a way "to make plain the great laws according to which the body lives," and gives also "a full discussion of how a violation of these laws may be avoided."

The book is well written and contains practically all that it is well for school children to know of physiology, and had the author been more fair in his discussion of the effects of alcohol, had he showed an unbiassed mind on that subject it might be recommended unreservedly. His error, however, if error there be, is on the right side and not being a practising physician he is excusable.

SPENCER L. DAWES.

The Propaganda for Reform in Proprietary Medicines. The Fifth Edition Revised to September 12, 1908. American Medical Association, 103 Dearborn avenue, Chicago.

This is a compilation of the reports of the Council on Pharmacy and Chemistry of the American Medical Association as they have appeared from time to time in *The Journal of the American Medical Association*, putting in a convenient form for reference the conclusions of the council upon various preparations which have been submitted to them for approval.

SPENCER L. DAWES.

MEDICINE

Edited by Samuel B. Ward, M. D., and Charles K. Winne, Jr., M. D.

The Pirquet Cutaneous Tuberculin Test. (Ueber die kutane Tuberkulinprobe nach von Pirquet.)

BRUCKNER. *Jahrbuch für Kinderheilkunde, September, 1908.*

The author enters first into a discussion of the appearances after a secondary vaccination with cowpox and in serum sickness which led Pirquet to his discovery of the cutaneous tuberculin reaction. Twenty-four hours after a second cowpox vaccination has been made, a small papule is seen over the point of inoculation. This early reaction is due to the presence of antibodies in the blood. When this occurs it can be stated positively that the subject had previously been successfully vaccinated. This reaction is called "allergie" by Pirquet and he found it present in typhoid, cerebrospinal meningitis, diphtheria and tuberculosis. As a means of early diagnosis in tuberculosis, Pirquet's allergie reaction has become famous. The technic is next described and the significance of the early and secondary reactions.

The early reaction is specific—that is, it occurs only in cases previously infected with the tubercle bacillus. Its absence does not necessarily exclude tuberculosis as it does not occur in tuberculous meningitis or acute miliary tuberculosis.

The secondary or late reaction appears more frequently as the child grows older. This reaction Pirquet believes is indicative of a latent tuberculosis.

A review of results of other authors is then given in detail.

The author vaccinated 160 children from eighteen days to thirteen and one-half years of age. Of these fifty-seven or thirty-five and one-half per cent. gave a positive reaction and ninety-three or sixty-four and one-half per cent. were negative.

In the children under twelve months of age, nine per cent. were positive.

From one to two years, thirty-one per cent. were positive.

In the third year, twenty-eight and five-tenths per cent. were positive.

In the fourth to fifth years, thirty-one and six-tenths per cent. were positive.

In the sixth to ninth years, fifty per cent. were positive.

From the tenth to the fourteenth year, fifty-four per cent. were positive.

There was a family history of tuberculosis in thirty-five and of these twenty-five reacted positively.

Fifteen of the children subsequently came to autopsy. Of the four who reacted positively, three had macroscopic tubercular lesions. Of the eleven who did not react, one had macroscopic tuberculosis. This was an infant eight weeks old who died of miliary tuberculosis of the lungs and liver.

The Normal Temperature of the Body.

R. D. RUDOLPH. *International Clinics*, 1908, Vol. I, p. 82.

It is difficult to determine by whom the normal temperature of the body was first marked on clinical thermometers and charts as 98.4° and 98.6°. The author believes that the average mean temperature taken by ordinary clinical methods is considerably below that point. Nearly one thousand observations of the temperature of third year medical students in Toronto University gave an average morning temperature of 97.63°, and evening temperature of 97.67°. The students were specially cautioned not to take their temperatures within an hour of meals, to shake down the thermometer very low and leave it under the tongue at least five minutes. These observations were made in November.

The author also took the temperature of a great many healthy individuals of all ages and both sexes and found it quite exceptional to get the temperature in the mouth up to 98.4°. In two hundred and eight surgical cases out of three hundred and fifty examined in the Toronto General Hospital the temperature ran almost persistently between 97° and 98° Fahr.

On the whole children's temperatures tend to run higher than adult's. Still 44 per cent. of a number of charts examined at the Victoria Hospital for Sick Children were on the average below 98° Fahr. An examination of the charts in several hospitals showed that the temperature tended to be lower in cool weather than in warm, still even in June 31 per cent. of the charts showed a temperature well below 98.4°. In studying hospital reports there is a margin of error in favor of the lower values due to the fact that the nurses are looking for the presence or absence of fever and are sometimes content to shake the thermometer only down to the arrow mark. In nine nonfebrile cases studied by the author whose ages were between sixty-two and seventy-seven, in only two did the temperature run below the so-called normal line. In old age the temperature apparently tends to be higher again.

The human temperature taken with ordinary clinical precautions is usually below 98.4°. Instead of having a normal point, the author would have a normal band with lower limit 97.2° and upper limit 98.4° placed on thermometers and charts if it seems necessary to mark the normal at all. A temperature of 97.5° he does not consider as suggesting incipient phthisis. A temperature running persistently at about 98.5° would to his mind be more indicative of the presence of some infection.

PSYCHIATRY

Edited by G. Alder Blumer, M. D.

The Prognosis of Dementia Praecox. (*Die Prognose der Dementia Praecox.*)

E. MEYER. *Archiv für Psychiatrie und Nervenkrankheiten*, 45 Band, 1 Heft, 1909.

The clinical entity described by Kraepelin as dementia praecox has been gradually accepted by German authorities, although many prefer the

terms, hebephrenia, katatonia, adolescent insanity, and the like. Katatonia and hebephrenia have no sharp line of demarkation, and dementia paranoides raises many disputed questions as discussed by Kraepelin, and presents so many forms that the innovation appears rather to have revealed new defects than to have obliterated old ones. If dementia praecox is to be accepted as a distinct clinical symptom-complex, it is necessary to define it exactly and to differentiate it from other mental disorders. Bonhoeffer places many cases of degenerative insanity in this class. The most frequent difficulty occurs in the differentiation between dementia praecox and manic-depressive insanity, as there are these two distinct forms of functional psychosis. Cases of dementia and paranoia are relatively so infrequent that they need not be considered with the other two great groups.

Kraepelin has announced that complete restoration from dementia praecox is not to be expected, and many observers agree to this. It cannot be denied, if dementia praecox represents a disease entity, that it is hard to understand how the same pathological process, which is progressive in the greater number of cases, makes a halt in some after extensive advance, and in others disappears without leaving a trace. It is often compared with general paralysis, which is a progressive disease, though subject at times to partial remissions, without complete disappearance of the symptoms. But the pathology of dementia praecox is entirely doubtful, and far from exact as is that of general paralysis. The probabilities are three-fold:

First.—Cases may be regarded as dementia praecox, whose clinical and anatomical structure are difficult to determine.

Second.—There are symptom-groups which, clinically, cannot be separated from dementia praecox, although eventually they prove to be special manifestations of mental disorder.

Third.—There are undoubted cases of dementia praecox of so slight intensity, or others which have so far receded, that the manifestations of disease are not discernible. Many observers insist, inasmuch as the process in the scientific sense may not go on to recovery, that the apparent restoration is merely a remission. This implies further recrudescence, but there is evidence that this need not follow. And a permanent recovery may occur which fulfills the requirement of "social rehabilitation;" the patient may resume his occupation with full participation in its obligations.

Kraepelin maintains his position with reservation as to remission. He anticipates recovery in thirteen per cent. of katatonia and eight per cent. of hebephrenia; for dementia paranoides he has no such expectation.

Hoche, with reference to hebephrenia, thinks the number of recoveries is somewhat greater. Pitzel believes recovery is possible. Klipstein and Kölpin exclude recovery from hebephrenic dementia, although both recognize remissions. Pfersdorff has analyzed the remissions; of one hundred and fifty cases of dementia praecox, twenty-three presented remissions of from two to ten years' duration; sixteen per cent. of these patients were able to work. Evenson's cases developed with chronic or sub-acute

symptoms. Of the former five per cent. were able to support themselves, twenty-five per cent. were capable of work and seventy per cent. were mentally crippled; of the latter the percentages were thirteen, thirty and fifty-seven, respectively. Albrecht found recovery in only two per cent. of the cases of dementia praecox, and in seventeen per cent. "restoration with defect."

In 1403 Meyer reported forty cases with katatonic symptoms, which might properly be included in Kraepelin's katatonic group. Fourteen of these appeared to be restored, two after an illness of less than a year's duration, five of more than a year, and seven after an illness lasting between two and three years. Since then two of these patients have relapsed. In 1318 admissions to the Königsberg clinic between 1904 and 1906, one hundred and seventy, or 12.8 per cent., belonged to the dementia praecox group. There were sixty-six men and one hundred and four women. Of these thirty-six were cases of katatonia, one hundred and sixteen hebephrenia, and eighteen dementia paranoides. The number of recoveries was thirty-one, eight men and twenty-three women, or one-sixth to one-fifth of the total; and of these, there were eight cases of katatonia and twenty-three of hebephrenia. Thirteen patients who did not recover, but reached a condition regarded as "restoration with defect," have some capacity, returning to a natural state of nutrition, fully or approximately, but revealed some indications of mental weakness, as a change of occupation to one requiring less intellectual appreciation. Fourteen patients remain outside of institutions, but are manifestly mentally defective, even to the lay observer. Of the other one hundred and twelve patients, twenty-eight have been lost from sight and eighty-four have not progressed favorably.

From these observations it may be concluded that the prognosis of dementia praecox is serious, but far from absolutely unfavorable; in a considerable number of cases, one-sixth to one-fourth of the katatonia group, or over one-sixth of the combined groups, restoration of health for a period of years occurs.

Katatonia in Childhood. (Katatonie im Kindesalter.)

RAECKE. *Archiv für Psychiatrie und Nervenkrankheiten*, 45 Band, 1 Heft, 1909.

Katatonia is a disease particularly associated with the bodily and mental evolution of puberty, though its expositor, Kahlbaum, believed it might appear at any age. Kraepelin has incorporated katatonia in his conception of dementia praecox, and believes that traces of its symptoms may be discovered as early as the fourteenth, and even the twelfth year. E. Meyer has seen katatonia in children of from twelve to fourteen and Ziehen reports an instance traced back to the seventh year. Infeldt lays less stress upon the actual year, but believes the mental disturbance is

to be associated with the beginning of sexual activities. Raecke cites ten cases:

The first patient was a normally developed boy of twelve, who stood well in school and gradually passed into a state of stupor with negativism, mutism, stereotypy, refusal of food, incontinence, and short periods of irritability. He improved and relapsed, improved again, and was out of the institution a year and a half.

The second patient was a girl of fourteen, who had not menstruated, but was otherwise well developed, though with poor family history. She died of tuberculosis.

The third patient was a boy of fifteen, of good antecedents, and even some indication of precocity. His psychosis followed from work in which he engaged on leaving school. He improved, but not permanently, and became stolid, hypochondriacal and irritable.

The fourth patient was a boy of fourteen, of illegitimate birth. He had been a good student, but at first lost his ability to write well, and then sat listlessly about and appeared childlike. Later blood appeared in his stools and he became hypochondriacal. He was anxious, whined, was subject to hallucinations, complained of unpleasant sensations, and ran uneasily about. He developed profound stupor with catalepsy, negativism, mutism, and loss of weight. He eventually recovered.

The fifth patient was a boy of twelve, who had had a blow upon the head at two, and was backward. He recovered, and after four years had developed so well that he could not be regarded as imbecile.

The sixth patient was a girl of twelve, who revealed active nervous symptoms of hysterical character, grafted upon an apparent imbecility, together with the psychic characteristics of kataonia. She appears to have recovered, but the permanency of the restoration is questioned.

The seventh, eighth, ninth and tenth were patients whose katatonic manifestations developed upon a manifest congenital defect.

The appearance of katatonic symptoms in idiots and imbeciles may not be regarded as extraordinary. Tics, mania and stereotypy are known also to appear in these cases, and it is well known that an outspoken katatonic symptom-complex with stupor is observed in the most widely differing organic and functional mental disturbances.

It may be concluded:

Katatonia appears in childhood, particularly between the twelfth and fifteenth years, and does not differ essentially in its principal manifestations from the disease in adults. As a rule, congenital mental defectiveness provides the opportunity for the development of the psychosis, though exciting causes play an important part.

Many so-called imbeciles with katatonic symptoms may pass through an attack of katatonia in childhood, and in this way may, in greater or less degree, have acquired this mental defect.

The existence of imbecility has no notable effect upon the clinical symptoms or upon the prognosis of the kataonia.

Maniacal-Depressive Insanity.

J. S. BOLTON. *Brain*, Vol. 31, Part 122, 1908.

The interesting part of the paper by Dr. Bolton rests with the discussion of the question as to whether this new phrase, Maniacal-Depressive or Manic-Depressive Insanity, should be received in the nomenclature of mental diseases. Dr. Bolton reviews the history of the various forms of mental disease now thought to be included under this term and finds that there have been three periods, as follows:

The first period, extending up to the middle of the last century, covers the time of the simple observation of attacks of mania and melancholia alternating in the same patient. In the second or French period the observation was made that mania and melancholia separated by a more or less lucid interval was described as a *forme circulaire*, a type of insanity characterized by two regular periods, one of depression and one of excitement, the latter called *folie à double forme*. The third period begins with an introduction by Kraepelin, 1899, of a new classification. He showed that the psychoses called intermittent, periodic, circular, à double forme, alternating, etc., all show the same mode of evolution, and that it is more logical to consider all these states as the manifestations of one fundamental malady.

Dr. Bolton then follows with an academic discussion of the extent to which this form of mental disorder may involve other forms and finally lays particular emphasis upon the resemblance of the so-called different disorders to the emotional changes which are properly regarded as within the limits of health. Dr. Bolton quotes Clouston to the effect that the victims of alternating insanity are usually persons of education and refinement.

In conclusion, the writer is unable to regard mania and melancholic depression as simple and opposite motive states, though mere excitement and depression may be such. Mania, whilst at times outwardly indicative of general exaltation of cerebral function, is more often a sign of decreased action of the higher controlling and latest evolved portion of the cerebrum. Melancholia, on the other hand, whilst it is indicative at times of recuperative general depression of cerebral function, or of impending loss of higher cerebral control, is more often a sign of the onset of permanent general depression of the cerebral functions, and is thus the objective evidence of impending or developing (presenile) involution of the cortical neurones.

Mania is thus of less grave prognostic import than is melancholic depression, and this statement is in agreement with general clinical experience and practice; for, alcoholic cases being excluded, patients with mania are more readily discharged "recovered" than those who suffer from melancholia (quite apart from the question of suicide).

As will have been gathered from the above remarks, the writer therefore considers that the maniacal-depressive generalization is untenable as a description of a special kind of mental disease, although he welcomes

it as indicative of a tendency to decrease the number of "mental diseases," and thereby to make a further advance towards the conception that insanity is one disease, which is due on the one hand to various grades and forms of cerebral subevolution, and on the other to various grades and forms of cerebral involution and dissolution.

GYNECOLOGY

Edited by John A. Sampson, M. D.

Placental Syphilis; A Study of Syphilitic Placentæ with Regard to the Presence of the Spirochæta Pallida.

W. O. PAULI. *Johns Hopkins Hospital Bulletin*, November, 1908.

A study was made of the syphilitic cases, which presented themselves for treatment in the Obstetrical Department of the Johns Hopkins Hospital, in order to determine if possible in what percentage of cases the spirochæta pallida is demonstrable in placenta presenting histological evidence of syphilis.

During the twelve months extending from July, 1907, to July, 1908, 825 placenta were examined and of these twenty-five were diagnosed as syphilitic by microscopic examination. Twenty-four of the twenty-five placenta were examined for spirochæta pallida and after a careful search they were not found in a single instance. Autopsies were obtained in sixteen of the twenty-five infants and in fourteen an anatomical diagnosis of congenital syphilis was made. The diagnosis was based upon the increase in the size and weight of the liver and spleen, the presence of pneumonia alba and of a definite osteochondritis at the epiphyseal line of the long bones. The anatomical diagnosis was confirmed in eleven cases by the demonstration of the spirochæta pallida in large numbers in the fetal organs, while in five cases they were not found.

From a review of the literature, the writer finds that the spirochæta pallida has been demonstrated in sixteen of 120 syphilitic placenta examined.

He draws the following conclusions: (1) That the spirochæta pallida is rarely found in syphilitic placenta and then only after long and tedious search, (2) that the anatomical changes observed in the placenta are the result of toxins produced by the spirochæta pallida in the fetal organs and not to the immediate effect of the organisms upon the villi themselves, (3) the placenta is not the nidus of infection. The fact that the spirochæta pallida is never found in the maternal portion of the placenta, but only in the blood vessels and stroma of the fetal villi, would suggest that the placenta offers greater resistance to the invasion of the organisms, which is probably due to the steady flow of anti-bodies or immune substances from the mother through the maternal circulation.

Concerning the Frequency of Thrombosis after Gynecological Operations and during the Puerperium. (Über die Häufigkeit der Thrombose nach Gynäkologischen Operationen und im Wochenbett.)

M. HOFMEIER. *Zentralblatt für Gynäkologie*, January 2, 1909.

It has been argued, in favor of the early getting out of bed after gynecological operations, that the number of post-operative cases of thrombosis has diminished in recent years, *i. e.*, since this plan has been adopted. The writer thinks that early getting out of bed can only cause a diminution in those cases of thrombosis which may arise from circulatory disturbances due to remaining in bed too long and not in those arising from infection of the vessel walls. In fact the early getting out of bed would be injurious in the latter cases.

In the *Zeitschrift für Geburtshilfe und Gynäkologie*, Bd. XLIV, Burkhard reports, from the Würzburger Clinic, twelve instances of thrombosis following 236 operations for uterine myomata with six deaths; these statistics, when compared with more recent ones, have been used as an argument in favor of the preventing of this complication by early getting out of bed. An analysis of the cases reported by Burkhard shows that there was evidence of infection in eleven of the twelve cases, as demonstrated by the postmortem findings in those who died and the clinical manifestations of infection in those who recovered. In only one case, that of a patient dying in the fourteenth day from a pulmonary embolism, was there no evidence of infection and the thrombosis from which the embolism came may have arisen from purely circulatory disturbances.

The writer believes that the lessened number of instances of thrombosis following these operations, in more recent times, is due to other factors than getting out of bed early and is especially due to better operative technique and more rigid asepsis.

In support of this claim, he reports the results of the last 289 operations for myomata from the Würzburger Clinic, the same clinic from which Burkhard reported his cases and where the same post-operative care was employed in both series of cases. The only differences in the treatment of the cases were the better operative technique and more rigid asepsis at the time of operation in the last series of cases. In these 289 cases there were only six instances of thrombosis with three deaths as compared with twelve instances of thrombosis and six deaths in a smaller number of cases operated upon in the same clinic in previous years. Of the three deaths, one died from tetanus, one from peritonitis, and the third from pulmonary embolism on the twenty-first day.

Of the 525 operations for myomata quoted above two died from emboli arising from thrombi at the site of operation. In eighteen instances thrombosis was diagnosed and in five of these cases only as incidental findings at postmortem. In only two cases was there thrombosis without elevation of temperature, *i. e.*, possibly due solely to lying in bed too long.

The writer concludes that the less frequent occurrence of thrombosis

as a post-operative complication in recent years is due to other factors than the early getting out of bed as thought by various operators.

In 10,000 births in this clinic there were only twelve cases of thrombosis. Nine of these were associated with high fever and followed difficult, complicated labors. In only three instances was the puerperium without fever. Embolism or death as a result of thrombosis did not occur. It is doubtful if early getting out of bed would have diminished the number of cases of thrombosis in this series.

The Omentum: Its Anatomy, Histology and Physiology in Health and Disease.

C. C. NORRIS. *University of Pennsylvania Medical Bulletin*, June and July, 1908.

A study of the omentum was made by the writer in the Laboratory of Gynecological Pathology of the University of Pennsylvania, and its object was to determine its anatomy, histology and physiology in health and disease. Many experiments were made on the lower animals in order to ascertain its function, and specimens of human omenta obtained at operations and at postmortems were also studied.

As the result of these studies, the writer believes that the omentum is a highly specialized portion of the peritoneum, one of whose chief functions is to pour out leukocytes, and in addition, it assists in the irrigation and drainage of the peritoneal cavity.

It consists of a delicate network of fibrillar tissue superimposed upon which is a single layer of endothelial cells between which are numerous openings. These openings or stomata lead directly to underlying lymph channels and in this way the peritoneal cavity is pierced by countless microscopic openings. The writer found injection material in these stomata in specimens in which the lymphatics of the omentum had been injected and furthermore he found granules of carmine and India-ink in the substance of the omentum after these granules had been injected into the free peritoneal cavity. These stomata were found to increase in number as the result of inflammatory stimulants and he believes that they play an important part in the lymphosis of the peritoneal cavity.

The omentum is very rich in lymphatics and the smaller capillaries proliferate very rapidly as a result of inflammatory stimuli and as their walls are composed of a single layer of cells both lymph and corpuscles can easily permeate them. The omentum is very vascular and new blood vessels are quickly formed as a result of inflammation. As the walls of the smaller blood vessels consist of but a single layer of cells a countless army of leukocytes can be quickly poured out into the peritoneal cavity to combat an infection.

The view that the omentum has in itself the power of moving from one part of the peritoneal cavity to another is erroneous but from its peculiar shape it is easily moved about by the action of the intestines and as a result of intra-abdominal pressure. It rapidly forms adhesions about inflamed structures, walls of abscesses and blocks wounds of various hollow viscera and often becomes temporarily adherent under laparotomy wounds and thus prevents intestinal adhesions to the latter.

ALBANY MEDICAL ANNALS

Original Communications

PRELIMINARY REPORT ON THE TUBERCULIN TEST AS APPLIED TO A CITY'S MILK SUPPLY.

*Read at the meeting of the American Public Health Association,
Richmond, Va., October, 1909.*

By GEORGE W. GOLER, M. D.,
Rochester, N. Y.

The object of this paper is to present a simple plan for the examination of a city's milk supply to determine its measurable infection or freedom from infection with tubercle bacilli. Anderson in the *Journal of Infectious Diseases*, of March, 1908, shows the result of his work in the city of Washington, D. C., where in an examination of 223 samples of market milk, 15 samples or 6.72 per cent. contained tubercle bacilli in sufficient numbers to cause typical tuberculosis in guinea pigs after six weeks.

Hess* in New York has submitted 107 specimens of the "loose milk" of stores to the physiological test, and found that 16 per cent. of his animals were infected by the tubercle bacillus. Read his paper, for he has given a most valuable resumé of follow-up work in tracing the hygiene, sanitation, and tubercular infection of the children of storekeepers who drank the milk, and were found to be tuberculous.

The reason for determining the absence of tubercle bacilli from the market milk of cities is not altogether that the supply of market milk be drawn from herds free from the power of transmitting tubercular infection to other cattle, and thus prolonging the lives of tuberculous herds: but that we may also be reasonably sure that the tubercle bacillus may not be carried to milk, and thus act as an infective agent in causing tuberculosis among our children. For whatever part we may take in the controversy concerning the infective power of the bacillus of

*Hess. Tuberculosis in Milk, *Journal American Medical Association*, March 27, 1909.

bovine tuberculosis for men and women, we cannot cast aside the experimental proof of such observers as Schroeder, W. H. Park and Hess, whose work goes far toward proving that milk infected with the bovine type of the tubercle bacillus is a factor in causing tuberculosis in infants.

W. H. Park shows as a result of fifty-eight autopsies and examination in infants affected by or dying of tuberculosis that in twenty per cent. the bovine type of the tubercle bacillus was recovered. It having been proven that the bovine type of the tubercle bacillus does cause disease and death in children, what are we *as sanitarians* to do in the matter? It is not sufficient that we devote our attention to establishing and conducting sanatoria, day and night camps, schools and classes, and preaching the doctrine of open air, rest and all the other means for the treatment of consumption that modern curative medicine has developed in the last few years: for we are dealing with a disease whose ravages are due to the stress of modern civilization. What does it matter even if we preach and work against city congestion, the bad sanitation of a city, induced by bad street car service, high street car fares, and the high rents which make city congestion possible in the tenement and in the block. We may talk and work against bad municipal housekeeping, smoke, dust, impure air and water, bad school hygiene, impure food, and all that goes to make municipal life less worth living, but if we still permit direct tuberculous infection to take place through the ingestion of infected milk, our work is done but in part. The municipality that permits milk infected with the tubercle bacillus to be fed to its children, does not provide that protection which it is bound to give them. It is not only that the city loses those who die, but it suffers through those whose resistance is sufficient to enable them to live, and thus become less efficient members of society. *It is not the dead, but the half dead, who are a menace to society.* The city that neglects to protect its children against milk infection with the tubercle bacillus aids the men who furnished this milk in continuing the life of infected herds and delays the day when the measurably infected herd shall be stamped out. For the dairyman, who holds even one infected cow in his herd, not only maintains a cow whose life is a menace to the health of the municipality to whom he furnishes milk, but one whose milk-producing capacity if not lowered immediately, is ultimately lowered because of her shortened life. The tubercu-

lous cow is, therefore, a loss to her owner, and a menace to the health and lives of the children of the State.

This plan for determining the condition of the milk supply of a city is based upon the work of Anderson of Washington. It differs only slightly in detail, and is so arranged that it may be carried out by even the smaller municipalities, or where men may not be obtained familiar with all the details of modern laboratory technique.

In our work samples are collected from the retailer in original packages and numbered serially. From a pint or quart bottle of milk, or when the retailer does not bottle his milk, a pint of milk is collected in a sterile bottle and taken to the laboratory. Fifty c. c. of milk is mixed with 50 c. c. of sterile distilled water, put in a conical glass and centrifuged for an hour at two thousand revolutions per minute. Our centrifuge has four arms, and thus four samples are worked up at the same time. Eight half-grown guinea pigs are used, two for each milk sample. The glass containing the sample of milk is taken from the centrifuge and sterile platinum dish used to remove the layer of cream which is mixed with enough of the top milk to make it sufficiently fluid to pass through a good sized hypodermic needle. With a separate hypodermic syringe for each pair of guinea pigs, 5 c. c. of the mixture is injected beneath the skin in the groin of one guinea pig; then all but 5 c. c. of the remainder of the milk is decanted from the glass, the sediment well stirred with a sterile platinum loop, and 5 c. c. of the sediment mixture injected into the second pig. A similar procedure is carried out with the remaining animals, when they are charted according to color and markings and confined in open pens, four to eight in each pen. At the end of four weeks they are examined for enlarged inguinal glands and any other changes that may be present. At the end of six weeks they are killed, subjected to autopsy, and the macroscopical, but not the microscopical condition of the glands and viscera noted and recorded. Before working up the samples of milk each specimen is chemically examined and "counted," the animals dying of acute infection amounting to 7 per cent. thus far in our cases, are to be replaced by other animals subjected to like treatment from samples obtained from the same dealer.

When an animal is proven to have the well-marked naked eye lesions of tuberculosis, as shown by autopsy, smears are made and the presence of the tubercle bacillus proven in this way.

The name of the retail dealer from whom the milk was taken is obtained; he is asked to come to the Health Office, where the name of his producer or producers have already been taken from the records. He is shown the animal and the lesions; and the manner of their production is explained to him, and he is told that one week will be given him to have the herds from which he obtains milk tuberculin tested, otherwise the milk will be excluded from the city. He is further told that he may go with the milk inspector, who will take the preserved viscera and show them to his producer. If the retailer agrees to go with the milk inspector to visit his producer, well and good; if not, the inspector goes alone to the producer, shows him the specimens from the infected guinea pigs, and explains the necessity for having his herd tuberculin tested. If the producer agrees to have his herd tested, a form is given him from the State Department of Agriculture, which he is asked to sign. In New York State the State Department of Agriculture agrees to test the herd, pay 80 per cent. of the appraised value of the animals that react and show localized lesions, 50 per cent. of the value of those with marked and more general infection. The test under the New York State law is made by a State veterinarian, and is without cost to the owner.

Since January, 1909, 50 per cent. of the retail dealers in Rochester have had their milk subjected to the physiological test by having guinea pigs injected with it. Out of eighty retailers whose milk has been tested, samples from five of them, selling approximately 2,000 quarts of milk from six producers having a hundred and eighty cows, have shown in the reacting animals marked naked eye evidences of tuberculosis. Of these producers, two, owning ten and fourteen cows respectively, refused the test, and the milk was excluded from the city. Four producers, owning one hundred and fifty-six cows, had their herds tested, and seventy of the cows reacted; twenty-seven of them had the disease disseminated, and their bodies were tanked for phosphate.

The city of Rochester has a population of more than 200,000 people. Approximately, eighty thousand quarts of milk are used daily. On a rough physiological test of slightly less than half the market milk, 2,000 quarts, or 5 per cent. of the output, is found infected, and this by using a test that depends only upon lesions that are apparent to the naked eye alone. If the microscopical lesions had been determined and used to exact the tuber-

culin test from the retailer and producer, or if the animals had been allowed to live longer, or the infection of the guinea pigs had been determined by the injection of tuberculin as advised by Anderson, a much larger number of reacting animals and, therefore, more infected herds would have been found. But one of the important points in our application of this test in the preliminary work is that we present only naked-eye evidences of tuberculosis to the retailer and to the producer that they can understand. Men engaged in the sale and production of milk are sufficiently well acquainted with the appearance of the viscera of animals in health to be able to note such marked departures from health as are shown in the bodies of guinea pigs when markedly affected by tuberculosis. The exhibition of such animals convinces the milkman every time. Microscopical evidences of the disease, no matter how plain to those conversant with laboratory technique, are not at present sufficient proof for the milk dealer or producer. When we have weeded out the markedly tuberculous animals from the herds that give early and naked-eye evidences of tuberculosis, we may then attack the other end of the problem.

Another important point in this work as done by us is this: We hold the retailer responsible for the freedom of his milk from tuberculous infection. If he buys milk that is infected, we give him a few days in which to see that his producer has his herd tested. If the herds are not tested, we exclude the milk from the city, and notify the Department of Agriculture. This is a simple plan by which any city may provide for the application of the tuberculin test to the cattle that supply it with milk.

Already as a result of this work notices have been sent to the State Department of Agriculture for the application of the tuberculin test to a number of herds which have not been shown to be tuberculous by our test. The farmer has been thus stimulated to apply for the tuberculin test himself. He sees the importance of saving his herd. We see the value of keeping our children from such tuberculous infection. How many cities will join in the work?

We have enlisted the aid of all people in the general campaign against tuberculosis. Shall the main work of this campaign be directed toward the building of sanatoria and other establishments for all manner of cases, for work with the disease, while the bad sanitation of city life, and the neglect of personal hygiene,

make the disease faster than all the institutions now provided or in course of erection can take care of it, or shall we as sanitarians direct the attention of men and women to the places at which the disease is in the making? If we are to accept the statements of Park and others, the bovine type of the tubercle bacillus is responsible for much tuberculosis, especially of the glandular and abdominal types in the child. Shall we not do our mite in the campaign against tuberculosis by freeing from infection the herds that supply our cities with milk?

TREATMENT OF PUERPERAL ECLAMPSIA:

A CONTRIBUTION TO THE USE OF VERATUM VIRIDE.

*A paper read before the Medical Society of the County of Albany.
November 24, 1909.*

By J. L. ARCHAMBAULT, M. D.,
Cohoes, N. Y.

Mr. President and Gentlemen:

That the selection of a drug which lowers blood pressure is urgently indicated in puerperal eclampsia, as in all sthenic conditions, is certainly a question for careful study. Whatever the future may teach us regarding its exact pathogeny, eclampsia whether of the renal or hepatic type, is beyond doubt a clinical manifestation associated with marked increase in the arterial tension. This high blood pressure is but one of the circulatory disturbances induced by the free circulation of toxic products thrown into the blood stream as a result of the actually ill-understood auto-intoxication which forms the pathological substratum of the disease. A graver and more inaccessible vascular disorder is the joint anemia and edema of the brain to which are attributable, in the actual status of our knowledge, the convulsive seizures and the still more appalling coma. The first indication is to dispel this coma and to arrest those convulsions, in which lies the main danger. Every convulsion tremendously lessens the patient's chances of recovery (McPherson).

The best means to bring about this effect will be the *one* which will induce vaso-dilatation and hypo-tension the most rapidly and energetically; and that means will be the most effective which

will at the same time drain the system of the toxins therein accumulated by the active stimulation of the various emunctories.

Of all drugs known, none are possessed of this powerful influence to so eminent a degree as *Veratrum Viride*.

Veratrum Viride has a *magic effect on circulation*, of which it is one of the strongest depressants. Within thirty minutes to an hour after its administration, it will reduce the pulse-rate from 160 and over to 50, 40, and even 30 and 26 pulsations to the minute. "This effect reads almost like a tale," says Wesley C. Norwood, "and those only who have witnessed it can form a just idea of this power, as precious as it is astonishing." *Veratrum Viride* exerts its action mainly on the *heart* and *arterial system*. It lessens the force of the heart-beats by its direct action on the myocardium (H. C. Wood), and its indirect action on the vaso-motor system (Jewett). Carried by the blood in the vaso-vasorum, the vaso-motor nerves become paralyzed and the blood vessels lose their contractility (Kenyon, Percy, Peugnet). Through this mechanism, there is a rapid lowering of the arterial tension. Its depressing effect on the *nervous centers*, especially *spinal*, is also very marked, whether this effect is direct or secondary to its influence on the sympathetic through the vaso-motor nerves (Peugnet, Hirst, Fanton). By this combined action, whatever be the way to explain it, nothing more striking than the rapidity with which the convulsions cease so soon as the hyposthenia of the heart is obtained (Reamy). In fact, all obstetricians, familiar with the use of *Veratrum*, are agreed that with a pulse below 60 to the minute there is no fear of any further convulsion (De Cotret).

So far, however, and should the action of *Veratrum* be here limited, it would only stay the impending danger and its value would barely be more than palliative and fugacious, but it carries its activity and potency much further and in so doing becomes veritably an agent of cure as much as of relief, and one most energetic and reliable.

Unquestionably as a consequence of the profound arterial depression (Wood), and general muscular relaxation (Barker, Sullivan), there is soon induced a *profuse perspiration*, and, what is more important, a *copious diuresis*. This diuresis may be explained by the effect of the drug in arresting the vaso-motor spasm of the renal vessels (McCorkle). Be it as it may, such an action cannot be overestimated (De Cotret).

Simultaneously with both, more especially with the diaphoresis,

for the diuresis is in some cases slower to take place, there occurs a prompt effect on the stomach and intestine. *Veratrum* is a *sure* and *active emetic*. Its effect on the stomach is accompanied with severe nausea and intensifies the general depression. The vomiting is oftentimes violent and persistent. The contents of the stomach are at first rejected, and later on the contents of the gall bladder. In some cases, seemingly much more of the hepatic secretion comes out than this viscus can be expected to contain. Too much stress cannot be laid upon the value of this vomitus which occasionally is as ropy and pitchy as tar, and which might be in itself alone the means of relieving the organism of more toxins than could be effected by a venesection, besides restoring the liver to a healthier activity. In our experience, vomiting never fails to occur upon the administration of *Veratrum*, and always precedes the *effect on the bowels*. When the latter start to act, the dejections are generally watery, and sometimes very abundant. Of this quadruple effect of the *Veratrum*, the catharsis is certainly the least pronounced. But in this respect its action is easily supplemented by some other drugs, such as croton oil on the tongue, or Epsom salts by high enemata, or both.

It goes almost without saying that in handling so potent a remedy, the border-line is at times easily reached between the intended necessary depression and the exhibition of symptoms of collapse. Cases have indeed been met with in which symptoms of that nature have occurred. The pulse becomes extremely weak, almost imperceptible, the temperature may drop one or two degrees below normal, the extremities are cold, clammy and limp, the muscular relaxation complete, the pupils greatly dilated, the respiration shallow, sighing and slow. No bedside picture comes nearer to that of shock. Notwithstanding these alarming symptoms, the case is yet, we believe, to be put on record where death would have been imputable to *Veratrum*. Even in cases of poisoning, Bartholow is of the opinion that fatal results are extremely rare: "A full ounce of the tincture has, he says, been taken without producing death."

A first precautionary measure against symptoms of collapse, frequently a preventive of their occurrence, is to keep the patient in the horizontal decubitus with head low, not permitting under any circumstances the erect or sitting posture to be assumed. Of course, should collapse occur, or should there be sufficient evidence of excessive depression or impending syncope, the cessation

of the drug would be indicated, resorting without delay to the application of external heat and the administration of some diffusible stimulants, such as camphor, caffeine and nitroglycerin. The latter is especially advisable as having the great advantage of being a powerful heart stimulant and of acting quickly, without raising the arterial tension. A great sedative and reducer of high tension, nitroglycerine is almost in itself a logical anti-eclamptic drug.

The same cannot be said of morphine. in favor with many for the same purpose. Morphine, it is true, has an undeniable quieting effect on the cerebro-spinal axis, an effect, however, of a rather paralytic type; it is also dynamically antagonistic to the chief object in view inasmuch as it favors the return of the arterial tension and increases the renal, hepatic, intestinal and cutaneous inertia and insufficiency. In other words, it locks up all the channels through which the eclamptic patient intoxicated to the very marrow of her bones can hope to rid herself of the poison besieging her whole organism.

The hypodermic injection of some alcoholic stimulant has also been commended and in a case reported by De Cotret, where the pulse had fallen to 28, the circulation responded rapidly to one single hypodermic of brandy; whereby it can be seen that even an exaggerated slackening of the pulse is no reason for undue apprehension. From his extensive experience at the head of a large "Maternity," De Cotret does not hesitate to consider the remedy as absolutely innocuous, an assertion in which we can, from our own observations, fully concur.

A point of prime importance in the use of *Veratrum Viride* is the *dose* and *manner* in which the drug should be given to obtain the best effects.

The *fluid extract* should be preferred to the tincture, and the only logical way of administering it is *hypodermically*. It should not be given by the mouth, because being an emetic it will be in great part rejected before it is absorbed, and because the patient being either unconscious or greatly agitated, tossing about in every direction, it is a question whether it can be given with any degree of certainty that the proper quantity, or even part of it, has been swallowed. The hypodermic dosage is, moreover, much more accurate, and the effect so much more prompt. And a prompt action is what you are looking for: prompt, decisive, heroic!

As to the dose to be injected, the situation is most momentous, the danger appalling, the disease one for no half-measure. No three and five drop-doses will do any good. It is no wonder that many physicians are dissatisfied with the results they have obtained from such doses and distrust the drug entirely. Only *a large full dose* can be effective. Veratrum Viride must be *fearlessly* given in doses of 20 to 30 minims (Reamey, Carstens). The dosage depends altogether on the rapidity of the heart action. With a pulse of 120 or above, nothing less than 25 minims should be given; a pulse of 100 calls for 20 drops, and with a pulse below 100 no less than 15 drops for the first dose. The maximum effect of the hypodermic injection requires about 30 minutes; this is manifested in the slowing of the pulse. If, within 30 minutes, the slowing of the pulse has not been produced, the injection must be repeated in the same dose, and thereafter in gradually smaller and less frequent doses according to the effect received. *To get the convulsions to stop, the pulse must be slowed down to 60 or under, safer yet to 50, and kept there. Keep the pulse below 60* is a point which cannot be insisted upon too much. It is the very essential point. As stated before, with a pulse below 60 there need be no fear of any more convulsions. Another point quite as essential is to keep the pulse below 60 *for not less than 24 hours*, repeating to that effect the hypodermics in doses of 5, 10 to 15 minims every time the pulse shows a tendency to rise above that rate. Except in cases of rather mild type or where the remedy yields an unusually lasting effect, the return of convulsions may have no other explanation than the too early cessation of the treatment.

There is no rashness in beginning at once, and without hesitation, with high dosage. The effect intended is reached sooner, and we have the authority of Bartholow, already quoted, regarding its innocuousness, even in over doses. Further proof that this is no speculative statement, De Cotret relates that, at the request of Kiely, Reamy injected 15 minims, and forty-five minutes later 15 minims more; the convulsions remaining uninfluenced, Taylor, called in as a second consultant, injected forty-five minutes later a third dose of 20 minims; the pulse rate was reduced to 26 and the patient's life saved. In a desperate case, Barker administered 400 minims within the first six hours, rescuing his patient. For our own part, we have never begun the administration of Veratrum with less than 22 to 25 minims. As to the full amount

reached in any one case, it has varied from 88 minims, the smallest quantity used, to 195 minims, the largest.

It would be an idle purpose to submit to you very extensive statistics in support of the really unparalleled results obtained with Veratrum, but *the fact remains yet undisputed that the drug is far from receiving the attention and confidence it deserves.*

Since Baker first wrote about it in 1859, it has been from time to time highly praised by many eminent men, most of them Americans — Flint, Davis, Hirst, Carstens among others. In 1887 Jewett reported 22 cases with 4 deaths, a mortality of 18 per cent. In June, 1898, De Cotret of Montreal published the saving of a hopeless case where every other means had failed. Later, in 1902, in a second and more elaborate paper, in the *Union Médicale du Canada*, he related his four years' experience. After stating that of all methods of treatment it was the one which had given him the most satisfaction, he concluded with enthusiasm that Veratrum Viride is, in his opinion, the best treatment of Eclampsia. In 1906, in the May number of the *American Journal of Obstetrics*, Ryder contributed a series of cases in which, of 13 treated by Veratrum, 3 only had died, a mortality of 23 per cent, while of 24 in which it was not used ten died, a mortality of 41 per cent. Put together, the results of Ryder and Jewett give an average mortality of 20 per cent. More recently Todd of Atlanta and Mangiagalli of Milan have also tabulated their experience, Mangiagalli's mortality having been reduced from 23 to 7 per cent.

And yet, commenting upon these almost phenomenal results, the *Therapeutic Gazette* (Editorial, February 15, 1909), deplors the unaccountable indifference of the profession to so important a subject and its failure to employ this valuable remedy.

It is indeed more than surprising that the use of Veratrum should remain, so to speak, *individualized*.

If you naturally look to the most recent text-books for information you will find a few of them positively adverse to it, some in doubt as to its real value, and the greater number either silent or giving the matter but a passing notice. Morris says that when the patient, profoundly toxic, is unresponsive to the usual treatment, he has never seen any benefit from Veratrum. Marx denies the statement that under its influence the pulse becomes soft, slow and compressible, and that then the convulsions cease. Wright has generally found negative results after its use, though

it may well be, does he add, because he has not given it in sufficiently large doses or that the preparations used were not always reliable. Williams states: "Nor have I any experience with Veratrum Viride, which is so highly praised by American writers." Jewett as well as Edgar both speak of it in terms almost identical, but while they lay quite a good deal of stress on its favorable action, both place it, however, only as "second to chloroform (?) in value," a statement which at once under-rates its worth and leaves the mind of the reader greatly perplexed. Among those who have not a word to say on Veratrum, we find Ribemont-Dessaignes and Lepage, the foremost authority on obstetrics in the French language to-day, a work which is more of a standard text-book with the present generation than even the great Cazeaux ever was.

Thus adverse, misleading or silent, you find many of the books to which you like to refer for advice.

The same may be said of many articles appearing in the medical press, one of which published only a few months ago (April, 1909), in the *Journal* of this *State Society*, deserves more than a casual attention. The article is, indeed, very impressive, of an unusually high tenor and shows a clever understanding of the actual views of the pathology of eclampsia. The author (Wallace) admits almost sadly the restriction of the means in use and their inadequacy to the problem in hand, and yet he fails to make even a mention of so potent a remedy as Veratrum.

Those who have the privilege to come in contact with graduates from various schools, may have found these students well informed and ready to answer on practically every sort of treatment of eclampsia, except *this one*. All will mention foremost the *induction of labor* and the *administration of chloroform*. Two procedures we do not stand alone in considering most objectionable: *induced labor*, either *provoked* or *forced*, a procedure which sacrifices as many children as non-intervention, and saves less mothers than Veratrum combined with expectation, a fact well verified by us and many others; *chloroform*, which is apt, as we now know, to bring about liver changes exactly similar to those observed in the hepatic type of eclampsia.

Nothing has ever impressed us more than the *futility* of giving chloroform interruptedly to prevent a convulsion which is so imminent as to occur before enough of the anesthetic has been inhaled, or to arrest that convulsion when, the breathing being

suspended, none can be inhaled. Another impression just as weighty is the ominous possibility of abruptly filling up the lungs from the overdose poured on the mask when, the convulsion having ceased, the breathing returns deep and heavy, the patient being then fearfully cyanosed and much more in need of oxygen than of the formyl trichloride. And what of the free and continuous administration of choloroform for hours at a time for the purpose of protection against any further return of the convulsive seizures, a practice which has had and has yet, as most text-books bear witness, its advocates? One feels like comparing the condition then presenting with the prolonged operations in which the principal preoccupation in the mind of the surgeon is the part played by the anesthetic. It certainly looks still more paradoxical that an organism already loaded with poison should be fed another poison of the most deadly kind and this up to saturation.

In accordance with the above expressed views, it has been our settled, definite practice in the cases that have come under our observation in the last several years, more particularly since 1902, to *discard* entirely, in every case without exception, all previous treatments either by choloroform, morphine, saline injections in their different modalities (the contra-indication to salines arising naturally from the demonstration by Widal that hyperchlorhydation is detrimental to the permeability of the renal filter), or even the old and well tried phlebotomy — and to *rely* altogether, solely and exclusively, upon the use of Veratrum Viride in *heroic* doses.

Even when, from the first, cathartics are added, and as soon as possible thereafter alkaline diuretics, the object in view is not to have these measures participate with Veratrum in *controlling* the convulsions, but to *reinforce* by their effect the secondary action of Veratrum, that is, its *derivative* and *eliminative influence* upon the various emunctories.

This departure from former lines of treatment has been most gratifying since it has reduced in our hands the percentage of mortality to a fraction less than 17 per cent, a figure which compares favorably with those of Ryder and Jewett, though inferior to Mangiagalli's.

The cases upon which this figure is based, are not many. Only six have been observed in the last seven years, owing in part to the fact that our interest in obstetrics has been of late almost

restricted to consultation-work. It must also be conceded that very much cannot be inferred from so small a series. Yet the results have been so remarkably uniform that, when added to others, they become quite cumulative and conclusive.

A point to be insisted upon is, that, few as these cases are, they are not selected cases; they represent all the cases that came under our observation in those seven years. They were all severe cases; in all but one there was absolute loss of consciousness, and profound coma in four. Finally, in all cases there was marked alteration of the renal function.

Another point of no less interest, they represent all the phases of the child-bearing time during which eclampsia may occur; three the ante-partum, one the intra-partum, one the post-partum, and one the ante-and-intra partum stages combined. As is usually the case, the ante-partum and ante-intra-partum patients were primiparas; the other two, multiparas.

In all six cases the convulsions were brought absolutely under control. Five patients lived, and the sixth appeared as if she would; labor was progressing well and rapidly, when towards the end, without any sign of return of convulsions and during an expulsive pain, there abruptly occurred symptoms of cerebral hemorrhage, to the effects of which the patient succumbed eight days later, three lumbar punctures being practiced and giving an unquestionable, though only temporary, relief.

The point is moreover to be emphasized that in this unfortunate case in which the convulsions were controlled during the ante-partum stage, as soon as the case passed from the ante into the intra-partum stage, the Veratrum seemed manifestly to favor the unexpected rapid progress of this stage, the relaxation of the cervix (Edgar), going on a par with the general muscular relaxation (Desrosiers), characteristic of the Veratrum effect. During its ante-partum stage, this case was not any worse in its general aspect than the other three ante-partum cases, and the condition not any more alarming. Had it remained an ante-partum case, it would have been conducted exactly like the other three by *medical treatment alone*. In those three cases, gestation was not interfered with. The cases, not presenting any sign of labor, were allowed to go on undisturbed until nature itself gave the signal. This occurred in one on the 10th day after the eclamptic attacks, in the second on the 6th, and in the third on the 14th.

Every one of them got well. Every one had uncomplicated labor, though all were delivered of stillborn children.

Recovery was to be particularly noted in one case, in which the eclamptic state was complicated by a tertiary syphilis in full evolution. There had been a primary lesion three years before; there were now some rupia around the knees besides many indelible marks of healed sores. The fetus was oldish (*petit vieux*) and, as expected, the placenta was studded with white infarcts of various sizes. The patient had had ten convulsions when seen; had been unconscious several hours, with power of deglutition almost abolished; she was blue all over, with evidence of general pulmonary edema; the pulse was beating 168, extremely small and wiry; the urine, obtained by catheter, barely amounted to one ounce, was coffee color, boiled solid, and contained an abundance of casts, renal epithelium, white and red cells. This patient was given an initial dose of 30 minims of Veratrum and is the one who received 195 minims in all. The case was not a case where the chances of forced labor could, in our estimation, compare with those of non-intervention.

It may appear obdurate to remain in favor of non-intervention when the pendulum of opinion swings so much the other way, especially in this country. But an experience of forty years has taught us, through its many vicissitudes, not to be a partisan of the practice of *inducing labor*, either *provoked* or *forced*. At the time of the eclamptic seizure, if there is no sign of labor, it is a law with us not to interfere, although we agree to terminate labor as soon as nature permits, in assisting it, not in forcing it, once it is begun.

"Assisting labor" and "bringing it on when there are no signs whatever," are two different procedures. The difficulties become so evident in the latter alternative, and the danger so great not only to the integrity of the parts but to the safety of the parturient, that even the most zealous advocates of forced labor, whether they advise the various mechanical divulsions, Dührssen's deep cervical incisions, craniotomy or Cesarean section, are constrained to admit that "unless the operator feels *perfectly* able to perform these operations it would be better to rely on medical treatment alone" (Broadhead). Through these severe ordeals, few children's lives are saved, if not intended to be actually sacrificed as in craniotomy. As to the parturient's life, there remains much doubt whether these methods give, even in the hands of

men as expert as their originators, results as good as in non-intervention. Moreover, only practical in large clinics they certainly cannot be the methods of choice with the general practitioner. Thus made wise, the general practitioner will find it of decided advantage both to his patient and to himself not to interfere unless the parts are dilatable, his rôle being to assist not to force nature. In America, Hirst, among a few, has enforced the principle of "treating the patient medically and letting the uterus alone." Abroad, this practice finds support in the authority of Veit, Winckel, Charpentier, Guénot, among many others, but it specially forms a fundamental part of the teachings of the world-famed accoucheurs, Tarnier and Pinard.

Three months ago, M. E. Bonnaire, obstetrician at the Lariboisière Hospital, has published his views on this very question of the *accouchement forcé*, or as more properly termed by Tarnier, the *accouchement méthodiquement rapide* (methodically rapid delivery). Disciple of Tarnier and furtherer of his doctrines, Bonnaire has the following to say on the fallacy of inducing labor in eclampsia, and his statement may be considered as the prevalent teaching to-day at the Faculty of Paris. "It is quite usual to consider the cessation of gestation as a powerful element in the sedation of the convulsive seizures. The uterus once emptied, the convulsions cease or become attenuated in violence, number and duration. Unfortunately, this rule of clinical evolution suffers too many exceptions. In fact, a number of obstetricians who systematically enforce the immediate interruption of pregnancy, whatever be the period reached, run the risk of being unsuccessful with regard to the mother, and uselessly sacrifice, when pregnancy is little advanced, the life of a child who might have withstood the storm of a fugacious eclampsia and come to the world at full term, viable and well able to live."¹

Almost at the same time that Bonnaire came forward as the exponent of Tarnier's doctrine of non-intervention, McPherson²

¹"On a coutume de considérer la cessation de la grossesse comme un élément puissant de sédation des crises convulsives. L'utérus évacué, celles-ci cessent ou s'atténuent en violence, nombre et durée. Cette règle d'évolution clinique est malheureusement trop riche en exceptions; aussi nombre d'accoucheurs qui ont systématiquement recours à l'interruption immédiate de la grossesse, quel que soit le terme de celle-ci, s'exposent-ils à l'insuccès en ce qui regarde la mère, et sacrifient-ils inutilement, au cas où la grossesse est peu avancée, l'existence d'un enfant qui eût pu résister à l'orage d'une éclamptie fugace pour naître à terme, bien viable et bien vivant."—*La Presse Médicale*, Aug. 18, 1909.

²*Journal of the A. M. A.*, Oct. 23, 1909, p. 1362.

contributed, at the June session held in Atlantic City of the American Medical Association, a paper in which he advocated the directly opposite view of immediately evacuating the uterus, "When a convulsion occurs, does he state, let us empty the uterus without delay." This "immediate evacuation of the uterine contents is," for him, "the only feasible treatment, the eliminative care coming only afterward." Nothing is more interesting and instructive than this expression of diametrically opposite opinions by men so well favored with every facility for basing their views upon almost unlimited statistics. The statistics of McPherson rest on a series of two hundred and fifty cases supplied by the New York lying-in hospital. A careful perusal of his masterly article demonstrates a maternal mortality varying from 20.5 to 42.8 per cent., according to the means of inducing labor resorted to, or an average mortality of 33.3 per cent., in the in-door service of the hospital, and a mortality of 23 per cent. (note a more favorable percentage) in the out-patient department. In the latter, the cases were from "tenement houses of the lowest type, surrounded by the most unfavorable conditions." Whether immediate intervention was resorted to in all these cases of the out-patient department is not stated; it may be inferred that in many it was not, circumstances being such that medical treatment and less radical measures were alone practical. In the in-door service, on the contrary, where the best equipment was at command and expert operators ready to render assistance, emptying the uterus was systematically enforced. The results obtained are certainly very impressive; yet successful as McPherson was with the method he advocates, it is to be noted that his most favorable figures (20.5 per cent.) remains inferior to that (17 per cent.) which was presented earlier in this paper as obtained by non-intervention. Again, it must not be forgotten that his argument is altogether from the viewpoint of the hospital obstetrician and not of the general practitioner; and this, in our estimation, adds much weight to the more conservative practice of Bonnaire.

In speaking before of the doses of Veratrum required in eclampsia, we referred to the fact that some men have used it and have been disappointed. In two of the cases here mentioned the attending physicians had indeed given Veratrum. When asked in what dose, and how many times? Two or three times, in doses of three to five drops, and by the mouth! One could not conceal

his emotion when we proposed the so-called *heroic* dose of 25 minims and he positively refused to share the responsibility of the outcome. This was our fourth observation, the case of post-partum eclampsia. When our confrère witnessed the magic effect obtained, he acknowledged having seen what he had never seen before and said: "This will be the treatment with me hereafter, I tell you." Another, a very progressive and up to date man, had already given a hypodermic of morphine; morphine and chloroform were still his best weapons. Neither arrested the convulsions; the patient had a frightful one right then and there. For a few minutes she actually looked as if she were dead. The Veratrum without doubt turned the tide, although we felt that the morphine would to some extent inhibit its action. In fact, the pulse came down and vomiting occurred, and therewith a complete relaxation and cessation of the convulsions after one more had occurred, but without the catharsis and diaphoresis expected, and therefore with much limitation in the effect and benefit sought for.

Much doubt yet remains as to the true condition of the kidneys in eclampsia. The latest views seem to admit that the ordinary tests for albumen and urea are wholly inadequate and that the urine should be examined for evidence of disturbed nitrogenous metabolism. On the other hand, many still contend that there may be neither organic lesions nor even functional impairment. We cannot say that this statement corresponds with our own observations. It is not to be denied that some cases will startle you and develop a most severe form of nephritis within a very short time after a previously negative urinalysis. In one of the cases observed, the physician had not found albumen just the very day before, but a specimen of urine drawn between two convulsions gave one-fifth volume.

Another case had been throughout under our personal care. The patient was 39 years old and pregnant for the first time after a long married life. A point of greater interest in the case, however, was that in the beginning of the third month of gestation a myomectomy had been performed, six fibromyomata being removed, one of which by its size and location in the Douglas cul-de-sac would have constituted an invincible barrier to natural labor and would in time have left but one alternative, Cesarean section, provided the multi-myxomatous condition had not already induced abortion. We intend to present this remarkable case in

a later communication before this society. Of course, at the time of operation, as well as before and after, the renal function was subjected to the most rigid scrutiny. This close watch was kept up during the entire progress of gestation. Up to ten days before the convulsive attack urinalysis remained negative. Two days later there suddenly appeared a slight albuminuria, without organic elements. Rest in bed, baths, exclusive milk diet were at once resorted to. Four and five days thereafter a number of granular and epithelial casts were found. More active treatment was substituted to simple prophylaxis. Two days before the attack the output of urine kept decreasing rapidly while the structural changes became more and more obvious. In the 24 hours following the first convulsion the quantity of urine fell to 4 ounces and boiled solid; the casts were of almost every description: Small and large, short and extra long; hyaline, finely and coarsely granular; waxy, some of which finely granular; a few studded with epithelium and leucocytes; note, waxy, typical waxy casts. This conglomeration of all varieties of casts was also a particular feature of the case which finally succumbed to cerebral hemorrhage. On the fifth day following the eclamptic seizures the urine still boiled almost solid, but the quantity had come up to 47 ounces, and the Veratrum had otherwise splendidly asserted its salutary effects. During the following days the urinary output oscillated between 50 and 70 ounces. When labor took place on the 14th day, the albumen percentage had fallen to 1-10 volume, and a month later the functional activity of the kidneys had been restored *ad integrum*.

You may sometimes be inclined to judge that the kidneys are not defective nor deficient because they are acting freely and the output of urine is even abundant, but this is no evidence that the secretion is normal, as shown in one of our cases, the post-partum case, in which a full pint and a half was removed by catheter just after a convulsion had occurred, while the bed clothes were literally saturated with urine. This urine boiled quite solid and contained any amount of organic renal elements. We do not believe that there is a case of eclampsia in which renal alteration does not exist. Ever since we inquire more strictly into the condition of the kidneys and with the advantage of newer methods of investigation, defective condition of the renal apparatus has never failed to be manifest in our experience. Neither can we put on record a case of eclampsia in which *high arterial*

tension was not a predominant feature. Bacon,³ of Chicago, who has made systematic study of the blood pressure in all eclamptic patients, states that he has not yet seen a case of eclampsia in which there was not high arterial tension.

In conclusion, the result of perverted nitrogenous metabolism or of acute toxemia of an ill-defined type, eclampsia is essentially characterized by high arterial tension. The main object in view is to reduce this high tension; the next object to eliminate the toxins which produce it. No drug is capable of insuring this dual effect as well and as promptly as *Veratrum Viride*. It is not considered that *Veratrum Viride* has any direct antagonistic or inhibitory action on the toxins. By its sedation on the nervous and circulatory systems, it bleeds, so to speak, the patient within her own vessels (Wood), producing the effect of blood-letting without the loss of blood; and at the same time it opens up all the emunctories, effecting by its vigorous action on the skin, stomach, bowels and kidneys, another sort of *white* bleeding, equal in potency and superior in duration to venesection, while devoid of its ultimate and more persistent depressive effect. *Veratrum Viride* thus becomes, in our opinion, the drug *par excellence*. While it cannot be expected to cure all cases of eclampsia any more than quinine all cases of malaria, mercury all cases of syphilis, iron all cases of anaemia, ipecac all cases of amebic dysentery, it deserves, as much as these, to be called a specific — the specific of eclampsia.

At the last moment and through the courtesy of my friend Dr. Mitchell, I am in possession of a seventh case, of which I may repeat what I said in the beginning: "It reads like a tale." For indeed, in this case, *Veratrum* acted like magic. Here is the note handed to me by Dr. Mitchell, written in his own words: concise, right to the point, in a style characteristic of the man: "On August 6th, last, I was called in consultation to the bedside of Mrs. T. C., aged 27, primipara. This woman had her first convulsion at 4:30 in the afternoon. I arrived at 8 p. m., just in time to witness the fifth convulsion. At once I gave her 30 minims of Fl. Ext. *Veratrum Viride* deep in the deltoid muscle. Pulse dropped from 120 to 70. With that single dose there was not another convulsion. Labor set in at 12 midnight; baby was born 14 hours later by breech presentation. In this case there were traces of albumen during the six weeks preceding child-

³ *Journal A. M. A.*, Oct. 23, 1909, p. 1364.

birth, and the woman was totally blind from the first convulsion until the labor begun. Mother and child are both well."

Before terminating, a brief reference should be made, I believe, to the *Anti-toxic Treatment of Eclampsia*.

Are *Nephrene* and *parathyroidine* going to supersede former means of treatment and relegate them to oblivion? Or does the future hold them in store at least as powerful adjuvants?

At the International Congress of Budapest, Nubiola,⁴ of Barcelona, has asserted his strong belief in their efficiency. For Nubiola, eclampsia, similar in that respect to the auto-intoxication of gravidity, or, as he might have said, an expression of it, is caused by the partial or total failure of the anti-toxic organs to act; as a consequence the toxins circulating in the blood-stream are not neutralized and under unfavorable conditions reach the emunctories, producing therein perturbations which aggravate the situation. Of the emunctories, the one most susceptible and the one explaining the state of auto-intoxication of the patient, whether with impending eclampsia or with actual convulsive seizures, is the kidney; thus are observed, as Paul Bar has well demonstrated, either of the following conditions: hypoazoturia, albuminuria, oliguria or anuria. Nubiola has experimentally produced renal inhibition and then obtained its disappearance by using parathyroid extract; guided by these results, he has succeeded in obtaining the disappearance of renal inhibition in women suffering from gravidic auto-intoxication complicated with eclampsia, using to that effect nephrene (renal extract) and parathyroidine.

From his viewpoint, the treatment of eclampsia must realize the most energetic antitoxic action; this may be obtained by a judicious combination of the hydric and milk diet, of phlebotomy, baths, hypodermic or intravenous saline injections, and the use of the kidney and parathyroid gland extracts (nephrene and parathyroidine).

As you may observe, his claim for the antitoxic treatment is not in its exclusive use, but in its combination with most of the other means. Therefore, so far, no positive deduction can be made as to the real value of the method. In view of the difficult problem in hand let us hope that this value may not remain in the domain of the hypothetical speculation. What advance should *Veratrum Viride* and nephrene and parathyroidine prove, some day, to be synergetic!

⁴ *La Presse Médicale* of Paris, Sept. 11, 1909, p. 645.

Offsetting this hope and seriously controverting the claim made for the antitoxic treatment is a more recent communication by Seitz,⁵ of Munich. Seitz has been positively unable to ascertain that parathyroidine had any specific action against the convulsive seizure of eclampsia. In light cases, this opotherapy has been successful in the same measure as the classic medication; in severe cases it has been found ineffective and powerless, like other methods of treatment. Even the assumed parallellism of action between eclampsia and tetany advanced by some who regard both conditions as manifestations of parathyroid lesions and insufficiency, although suggestive, does not hold good.

Gentlemen, I have brought this subject before you as being a foremost question among those of prime importance to general practitioners, and most of you here assembled are such, and I am myself nothing else but one in the rank and file of that main body of our profession. It is a question which confronts us at every step in our practice and which to cope with we must ever be prepared and ready; one which, as obstetricians, we dread the most, unless it be the management of a fulminating post-partum hemorrhage, which subject, I am glad to say, was so ably treated a moment ago. It may be that the present contribution, based upon one's personal experience, could assist in solving this trying problem of the treatment of eclampsia. It may also serve some of you in their hour of distress. In these two considerations is naturally to be found the motive of this communication.

PUERPERAL INSANITY.

Read before the Medical Society of the County of Albany, November 24, 1909.

By J. MONTGOMERY MOSHER, M. D.,

Attending Specialist in Mental Diseases, Albany Hospital.

The number of admissions to institutions for the insane of women whose mental disorder is attributed to child-bearing, has been variously estimated at from five to ten per cent of the women admitted. If the statistics are limited to the number of women of child-bearing age, the higher percentage would be probably more nearly correct. This computation, however, might be

⁵ *Arch. f. Gynakol.*, 1909, Vol. LXXIX, p. 53.

further modified by the elimination of the cases in which the mental disorder is coincident with child-bearing rather than brought about by this cause. There is no estimate of the number of cases occurring in private practice in which commitment is not made, though this may be a fairly large class. Looking at the question from the standpoint of the obstetrician, Berkley has sifted the evidence from literature, and estimates one case in every six hundred and sixteen labors. Clouston places it somewhat higher, one in every four hundred, and Williams of the Johns Hopkins Hospital believes that Berkley's estimate is too high. Chapin speaks of the decrease in number of admissions of this class to the Pennsylvania Hospital for the Insane since the introduction of stricter antiseptic methods in obstetrical practice. During the last seven years thirteen so-called puerperal cases have been admitted to the Albany Hospital. In a total admission of six hundred and forty-four women, three hundred and eighteen of these were in the group of acute or recoverable mental disorders, that is to say, were not at first sight cases of mental degeneracy due to general or constitutional causes. The percentage of puerperal cases is consequently four, and would be larger if estimated upon the number of patients who have borne children.

Of these thirteen cases eight recovered, one is now under observation, two did not improve and were committed to an institution for the insane, two had had previous attacks not due to child-bearing and were not properly puerperal cases, and one patient, whose child was born three months after she was married, believed that she had committed an unpardonable sin and presented mental symptoms not of the same character as the others. Cases of puerperal septicaemia are not included in this group.

The designation "puerperal" is not strictly correct. Etiological factors are found during pregnancy, during the puerperium and during lactation. The clinical manifestations are not essentially different. The term "puerperal insanity" has thus been distorted from its literal meaning to a generic phrase applied to mental disorders incident upon child-bearing. By far the greater number of cases occur during the child-bed period, within the first two weeks after delivery, and one-half of all cases occur within the first week. Two per cent develop later, and are described as lactational. One per cent develop during pregnancy. All, however, belong to the group of mental disorders now described as the psychoses of shock and exhaustion. Shock

or exhaustion interrupts the normal functions and introduces disorders of metabolism leading to toxic conditions. Eliminating all cases in which child-bearing is not an essential causal factor, the symptoms are those of exhaustion and toxemia. This is not necessarily a septic condition in the common acceptance of the phrase but an abnormal action of the nervous system brought about by the mysterious poisons engendered within the body, not yet fully differentiated by the physiological or pathological chemist.

Many forms of mental disease have been placed in the puerperal group. As every observer is entitled to attach any name he pleases to any group of mental symptoms, no criticism need be made of these diagnostic terms. The older writers describe puerperal cases as mania, melancholia, confusional insanity; later writers prefer the more modern and less definite terms, dementia praecox, manic-depressive insanity, catatonic stupor, and so forth. As the same cases would be thus differently catalogued by different observers it may be assumed that no principle of vital importance is hidden under the phraseology, and we accept — perhaps with diffidence — the scientific strategy of the observer.

One mental manifestation, however, is prominent in every series of cases: hallucinations of the special senses are almost universally present. This symptom is the essential symptom of delirium, and in acute mental cases is pathognomonic of a toxic state. If puerperal cases are regarded as cases of delirium a very definite conception of this condition is at once established. In ten cases of the series observed at the Albany Hospital hallucinations of the special senses were present, and in one other case were suspected. These were: "That the world was afire," that "She had no bowels," that "She was to be burned," that "Her sister and cousin were in the wall of the room," that "The nurses had choked her," that "She was numb all over," that "People were passing the house and talking about her."

The puerperal case develops as follows: a few days after delivery, usually within the first week, the patient, having hitherto presented no abnormal mental manifestations, appears dull or bewildered, pays little attention to what is going on about her and makes irrelevant remarks. She then loses interest in the baby, distrusts the nurse and is suspicious of her husband. After a few hours or a day or two there is a sudden outbreak of excitement in which she may do violence to herself or to others, and the

infant is particularly liable to be sacrificed. The patient then passes into a state of active delirium and the attack is fully developed.

The recovery of such a patient depends upon the ability to sustain strength through the attack, to effect restoration of nutrition and normal functions and to prevent suicide. If these ends can be attained at home and the house be converted into a hospital for a few weeks, then home treatment is advisable. If the risk of accident is too great and the impulsive and sudden outbreaks cannot be carefully anticipated, and if security is to be had only by the use of stupefying drugs contra-indicated by the pathological condition, then recourse to a hospital must be had. Unfortunately, general hospitals are not, as a rule, provided with accommodations for this class of cases, and commitment to an institution for the insane is necessary. In this particular instance it appears that medical progress lags. Of the ten patients admitted to the Albany Hospital to be properly considered as puerperal cases, eight recovered health, and the average stay in the hospital of these eight cases was twenty-six days. Two infants accompanied their mothers to the hospital and were nourished by them throughout the attack.

The word insanity has come to be used in a formidable and oppressive sense. Etymologically it has no sinister significance, and means simply lack of health. Strictly speaking, we should be justified in the distinction between physical insanity and mental insanity, but this innocent phrase has come to signify the most unfortunate and deplorable state which a human being may reach. With deference to this universal conception of the word it should be applied only when strictly warranted. It is not a proper designation of a case of delirium lasting three or four weeks and occurring as an obstetrical complication. In the *Edinburgh Medical Journal* of August, 1906, Dr. Nathan Raw, who has official connection with a general hospital and with a hospital for the insane, after considering the problem presented by the mental disorders of pregnancy and the puerperal period, laments the necessity of legal intervention and says: "I would like to see in all cities and towns reception hospitals for mental cases where patients might be detained for six or eight weeks without being designated as lunatics, in fact, the reception hospitals to have no connection whatever with the Lunacy Acts."

ANTE-PARTUM AND POST-PARTUM HEMORRHAGE.

*Read at a meeting of the Medical Society of the County of Albany,
November 24, 1909.*

By H. JUDSON LIPES, M. D.,

*Clinical Professor of Obstetrics, Albany Medical College; Obstetric Surgeon, Albany Hospital,
Head-Obstetrician, Albany Guild.*

Mr. President and Members of the Society:

The writer considers it no small honor to have been requested by my esteemed colleague, Dr. Archambault, to present a paper to this society. It might have been more profitable to you as well as more satisfactory to myself had another choice been made; and while the subject assigned to me for presentation is rather a broad one, it will be my endeavor to discuss the etiology and differential diagnosis of the various forms of hemorrhages usually combined under "ante- and post-partum hemorrhages," and to consider the treatment only of the latter.

Physiologically hemorrhages should neither occur ante-partum nor post-partum, but they do happen often when causes are not apparent and on the other hand occasionally we find pathological conditions existing without the appearance of such symptoms, whose presence usually are made known to us by severe hemorrhages.

Every hemorrhage from the vagina during pregnancy should occasion a most rigid search for the cause because of the serious results both to the mother and in the later period to her offspring. Such hemorrhages naturally suggest threatened or inevitable abortion, extra-uterine pregnancy or in the later period, placenta previa, but there are various other causes of hemorrhages, however, which should not be forgotten.

Persistence of menstruation. To most women the first indication of pregnancy is the cessation of the previously regular menstruation. But in women having an irregular menstrual history this symptom does not possess the same diagnostic value; while we have all seen cases of amenorrhoea of several months' duration, in the course of which conception occasionally occurs.

Menstruation infrequently does occur after commencement of pregnancy, but is less profuse than at other times. This may be accounted for by the fact that the ovum may become attached

to the mucous membrane high up in the uterine cavity, thus leaving exposed a considerable area of the decidua, which in its tumified, oedemic and plethoric condition may easily give rise to a slight hemorrhage under the influence of the stimulation of psychic centers.

However, when the decidua reflexa becomes intimately associated with the decidua vera during the fourth or early in the fifth month, the uterine cavity under normal conditions practically becomes closed and consequently further purely menstrual hemorrhage is impossible. A few authentic cases are on record where a menstrual flow much diminished in amount persisted regularly throughout pregnancy. In fact, the writer has a patient who never menstruated until she became pregnant at 19 years of age, and with several successive pregnancies the appearance of menstruation was the first sign of pregnancy, each time the periods occurring regularly for five successive months. But before taking for granted such a possibility all other conditions should be most carefully excluded. The most characteristic feature of the persistent menstruation is its regularity, diminishing in amount each successive month. If metrorrhagia occurs during the early months of pregnancy we should look for a number of pathological conditions.

A visual inspection is absolutely necessary. After the usual preparation the vulva and ostium vaginae and vagina should be examined especially for superficial ulcerations and particularly hemorrhoids in these structures which are found chiefly in multipara. In rare instances these varicose veins, as the result of traumatism, rupture and give rise to considerable hemorrhage. When ulcerations of these structures are present the bleeding is less noticeable and is produced by minor traumatisms. In malignant disease of the vagina which is fortunately uncommon, and almost always secondary to carcinoma of the cervix, we have in addition to the irregular metrorrhagia, a foul-smelling discharge, and on an examination the lesion will usually be discovered.

Among the cervical lesions which give rise to a slight discharge of blood during the early part of pregnancy may be mentioned: First, acute gonorrhoeal endocervicitis. This condition is most frequently observed in the young wife who becomes infected as well as impregnated about the same time.

In chronic cervical endometritis, or cervical catarrh, the secre-

tions are frequently stained with blood, but the amount is usually slight. In this condition we have an enlarged cervix, hyperaemic, with follicular degeneration and on digital examination numerous nodules are felt which often mislead one into making a diagnosis of lacerated cervix. In cases of ectropion of the cervical mucosa, a condition often erroneously diagnosed as ulcer of the cervix, any slight irritation such as digital examination or sexual congress will produce some hemorrhage though insignificant. Old lacerations of the cervix are prone to bleed on pressure or other irritation and are particularly susceptible to infections which increases the liability to hemorrhage.

Intra-cervical polypi infrequently occur as a complication of gestation and give rise to a severe and persistent metrorrhagia, usually resulting in an abortion, and when the polypi is easily felt but not protruding from the cervix, it is often mistaken for an abortive gestation sac. The history of the case before pregnancy and a careful inspection will usually suffice to clear up the diagnosis.

But in the metrorrhagia of early pregnancy the most important lesion to be looked for or to be excluded is that of carcinoma of the cervix. That this is not a frequent concomitant condition is readily explained by the fact that carcinoma of the cervix or body of the uterus occurs most frequently after the child-bearing period is ended, but for the sake of the mother a correct diagnosis is so important that a most careful examination should be made. While placenta previa seldom shows itself in the earlier months during mid-pregnancy, especially when the cervix had been previously lacerated, it may give rise to symptoms not easily differentiated from those of carcinoma of the cervix. Placenta previa showing itself early in pregnancy does not give rise to the severe hemorrhages which occur later, and in all probability abortions may be much more frequently the result of low implantation of the ovum than is generally supposed. In carcinoma, however, we have the characteristic foetid discharge, if necrosis is present, and on inspection an erosion or cauliflower-like growth which bleeds so easily on the slightest irritation; but if any doubt exists the diagnosis should be confirmed by the removal of and examination of a portion of this tissue from the cervix under the microscope.

In all these conditions — endocervicitis, acute and chronic; ectropion of the cervical mucosa, cervical polypi, and carcinoma,

et cetera, the liability to hemorrhage when these lesions complicate pregnancy is much greater, due to the markedly increased vascularity and the consequent oedema of the tissue, together with the change in the connective tissue elements which prevents sufficient contraction of the walls of the blood vessels to stop the hemorrhage when this has once started.

Tumors of the uterine wall and appendages do not give rise to hemorrhages during pregnancy as a rule with perhaps one exception. Sub-mucous myomata when occurring at the site of the decidua serotina results in an imperfect implantation of the placenta, producing a marked thinness in this structure over the tumor and a consequent liability to hemorrhage. This condition will practically always result in an abortion, the hemorrhage gradually increasing until the whole placenta is detached.

In the conditions previously described as causing hemorrhage abortion has been mentioned, but as a result not a cause. When abortion does occur it is due to either diseases of the foetus or foetal membranes, most frequently caused by infection by the bougie or to abnormal conditions of the maternal organs, some of which have already been outlined. Whenever a diseased condition of the foetus, or its membranes or the maternal organs causes the death of the former, it becomes a foreign body and the first indication is usually hemorrhage more or less profuse. It is more severe and persistent than that from any other cause mentioned in the early months of pregnancy and may be so extensive as to cause the death of the patient. Most text-books consider the subject of threatened abortion and its treatment elaborately. In the writer's opinion any lesion of the foetal membranes or abnormality of the uterus which causes a hemorrhage, however slight in the first period, contra indicates any measure undertaken to prevent the occurrence of an abortion. It would be far better to empty the uterus and thus prevent further complications.

Mucous polypi of the uterus, especially where the whole endometrium has become irregularly hypertrophied or any hemorrhagic changes in the decidua are most sure to produce hemorrhage and consequently abortion. To our mind a very frequent cause of persistent metrorrhagia in pregnancy is tuberculosis of the endometrium and the writer believes that it is a more frequent cause of abortion than is syphilis.

Hemorrhage occurring as a result of disease of the foetus or its membranes may be due, first of all, to cystic degeneration of

the chorion. Blood appears gradually, perhaps, in small amounts, or possibly not at all, when the cysts remain small, but later when the degenerative changes are considerable and portions are cast off, the flow may be great due to the fact that the cysts often remain in the dilated blood vessels of the decidua and even in those of the wall of the uterus preventing their contraction. The presence of these cysts, however, in the vaginal discharge, makes the diagnosis positive and suggests proper treatment.

When this condition goes on to carcinomatous degeneration we have in chorio-epithelioma malignum an infrequent cause of hemorrhage and wherever hydatidiform mole exists or has been present the patient should be watched most carefully for some time, keeping in mind the possibility of malignant changes in the diseased tissue which must of necessity remain in the uterine wall even after the apparent removal of the mole.

Tuberous subchorial haematoma might also be mentioned as an infrequent cause of hemorrhage, irregular in amount and occurring usually from the third to the fifth month.

All these conditions may give rise to hemorrhage before the death of the foetus occurs, or it may not appear until the foetus and its membranes, through death and disintegration, becomes a foreign body.

In the consideration of the metrorrhagia of early pregnancy extra-uterine gestation should always be kept in mind, since upon its early diagnosis and prompt surgical treatment the life of the patient depends. A uterine hemorrhage does not always occur in this condition and consequently the first symptoms are frequently sudden pain and an alarming shock due to rupture and consequent intra-abdominal hemorrhage. If blood does appear before rupture of the tubal or tubo-ovarian pregnancy it is caused by the same conditions that give rise to the usual menstrual flow. The decidual changes in extra-uterine pregnancy are the same in becomes tumified by increased vascularity, hypertrophy, and early months as in intra-uterine gestation. The endometrium hyperplasia of the glands and by the normal hypertrophy of the stroma cells. Early uterine contractions as a result of sympathetic irritation produces more or less disturbance in this decidua exposing the engorged blood vessels, and causes a more or less severe hemorrhage. Slight hemorrhages may also occur from the uterine end of the tube, if patent, for the same reasons. After rupture of the extra uterine tumor the uterine hemorrhage is from two

sources. It may be caused by a loosening or breaking up of the decidua vera of the uterus as in menstruation or may be due to the fact that intra-abdominal hemorrhage drains into the uterus through the diseased tube or more frequently through the opposite healthy tube.

In the last few months of pregnancy, while any of the conditions previously mentioned may still remain factors in the production of hemorrhage, the most important occasions of metrorrhagia and the most to be dreaded are placenta previa and premature rupture of the placenta, and during labor, rupture of the uterus. These conditions producing ante-partum hemorrhage may still cause the most severe post-partum hemorrhage and must be mentioned under that head later.

While placenta previa is frequently the cause of abortion in the earlier months, as has already been pointed out, the amount of hemorrhage at the time is usually not sufficient to be a serious matter as far as the mother is concerned. But the further pregnancy progresses the greater the danger from this condition. Normally the placenta is attached to the upper segment of the uterine cavity and remains undisturbed until after the child is born. Whenever the placenta is developed in that portion of the uterine cavity which undergoes dilation in the first stage of labor or during the later weeks of gestation, the placenta necessarily becomes detached and exposed. When it happens to be situated over the internal os more or less copious hemorrhages appear from its torn blood vessels and the ruptured arterial lakes of blood in the decidua, the suddenness and amount depending upon the rapidity of dilation, as well as upon the area of the placenta exposed. The slight irregular hemorrhages which occur in placenta previa before dilatation begins are due to the comparative thinness of the decidua in the region of the os internum and the consequent imperfect development of the praevial portion of the placenta and its insecure attachment. While we can not consider the treatment of this condition at this time, we would say that the writer is opposed to Caesarean section for this complication because after incision into the uterine body the muscular contractions are not so vigorous and we can not pack the uterus with the same degree of safety. Besides, the lower uterine segment is supplied by a branch of the uterine artery which descends from the upper segment and also by the superior vaginal arteries and the circular artery which are branches of the uterine. Therefore,

even with firm contractions of the upper segment of the uterus, the hemorrhage will still persist from the torn surface of the cervix even after delivery and in spite of a Caesarean section the mother may still bleed to death, to say nothing of the added danger from hemorrhage and shock due to the operation.

Another cause of hemorrhage during the later weeks of gestation, and perhaps more frequently during labor, is the premature partial or complete detachment of a normally situated placenta. This condition termed "*ablatio placentae*" by some writers is described under "*accidental hemorrhage*," by others, two varieties are described: the apparent, and concealed or internal hemorrhage. When the former occurs placenta previa is easily excluded by examination, but we must keep in mind that some hemorrhage may appear in rupture of the uterus. Premature rupture of the placenta of this variety, however, usually shows itself prior to labor, while rupture of the uterine wall occurs only in labor. In considering the etiology of this hemorrhage we must take into account the fact that the loosening attachment normally takes place during the later weeks. In the apparent variety the blood finds its way between the membranes and the decidua and escapes through the cervix. This is the more frequent variety. In the concealed form the blood fails to find an outlet and may collect in sufficient quantity to produce alarming symptoms and even death. The outflow of blood may be prevented by the presence of the mucous plug or blood clot in the cervix as well as the pressure at that point of the presenting part of the foetus. Even the whole placenta may be detached without loosening the membranes peripherily or the membranes may rupture, allowing the blood to flow into the amniotic cavity. The primary cause of this abnormality is to be found in some diseased condition of the decidua or of the chorion. These may be the result of tuberculosis, syphilis, gonorrhea, neoplasms (particularly sub-mucous myomata), arteriosclerosis, nephritis, diabetes and especially of the acute infectious diseases.

The most acute hemorrhages are produced by mechanical disturbances, severe muscular exertions, blows on the abdomen, falls, et cetera. In these cases the history of the accident is most important in making a correct diagnosis. In twin pregnancies, after the delivery of the first child, the premature rupture of the placenta of the undelivered child may occur and in hydramnios, often the sudden contractions of the uterus induced by the rupture of the

amniotic sac will produce it. In this concealed variety the differential diagnosis is not easy. The symptoms are usually very acute, if the effusion is extensive, and are those of severe hemorrhage and shock, and demand immediate treatment.

Rupture of the uterus during labor may assimilate the concealed form of hemorrhage. In both the symptoms are evidences of hemorrhage and shock. In rupture of the uterus *the intermittent contractions cease* while they persist in premature rupture of the placenta, and although weaker there is an almost continuous painful spasm. This is a very important point in the differential diagnosis of these conditions. If in rupture of the uterus the foetus wholly or in part escapes into the abdominal cavity the differential diagnosis by palpation is more practicable. Here the uterine tumor is diminished in size, the foetal parts being felt more easily through the abdominal wall.

In the concealed variety of rupture of the placenta the uterine tumor is markedly increased. In either condition immediate operative treatment is imperative.

Rupture of an extra-uterine gestation which has advanced to the latter months may give rise to practically the same symptoms, but is rare and easily differentiated by the history of the case, especially of pain, irregular metrorrhagia, et cetera.

POST-PARTUM HEMORRHAGE.

Any hemorrhage arising after the birth of the child from whatever cause is termed post-partum, but technically the term is frequently restricted to hemorrhage from the placenta site within the twenty-four hours after the birth of the child. "Puerperal" or "secondary post-partum hemorrhage" are terms applied to flooding which comes after the first twenty-four hours of the puerperium. However, in determining our treatment in this condition the first important procedure as in all other diseased conditions, is to ascertain the cause. If the hemorrhage occurs immediately after the birth of the child and before the detachment of the placenta it may be due to lacerations of the perineum, vagina, or the cervix, the rupture of an aneurismal vessel, varicose vein or cervical haematoma, and is then easily controlled by forceps or suture. And what is more rare and usually overlooked, but resulting in copious venous hemorrhage, is a laceration into the anterior wall of the vagina and vestibule, resulting in a laceration of the "pars intermedia" of the bulbi vestibuli. If the hemor-

rhage is copious it may be the result of a rupture of the uterus, the blood and blood clot which had gone into the abdominal cavity draining out into the uterus again; or it may be the concealed hemorrhage of a prematurely ruptured placenta now made apparent by the rupture of the membranes and the birth of the child. In either case the symptoms of hemorrhage and shock occur before or during the birth of the child and not post-partum. Hemorrhage from malignant or benign growths of the uterus, frequently resulting in premature rupture of the placenta, may likewise be causative of post-partum hemorrhages, but usually these lesions cause premature labor or an earlier abortion.

The essential cause of post-partum hemorrhage, in its technical sense, is atony or imperfect retraction of the uterine muscle. When the uterus is normally contracted hemorrhage of any considerable amount is impossible.

The causes which contribute directly or indirectly to imperfect uterine retraction at the close of labor are numerous. Long, exhaustive labors producing inertia uteri and the directly opposite cause — precipitate labor — where the expulsion of the child and placenta happens so suddenly that severe hemorrhages occur before sufficient time has elapsed for uterine retractions to take place.

Inertia uteri may also be produced by a previous over-distention of the organ, such as is found in hyramnios or multiple pregnancy. Prolonged anesthesia may produce atony of the muscular wall. This is particularly true of ether. Chloroform when used judiciously is not so apt to produce it, since the time elapsing between the birth of the child and the delivery of the placenta is sufficient usually for the patient to fully recover consciousness so that the sympathetic centers become available.

A full bladder or loaded bowel, tumors of the uterine wall or adnexia, or the retention of partially adherent placental fragments may all result in hemorrhage even when normal conditions within the uterus are present, due to these lesions preventing complete retraction and the secure ligation of all vessels.

Emotional disturbances after labor and certain systemic diseases, such as nephritis, extreme anaemia, tuberculosis of the endometrium, et cetera, are also predisposing factors. Atony of the uterine muscle is present more frequently in multipara, especially in those who have borne many children. This is due to the fact that with the birth of each child more individual muscle

fibres are destroyed and replaced by connective tissue in the normal involution of that organ. Inertia uteri is relatively more common in the well-to-do than among the poorer classes, because of their more luxurious habits and their lack of proper exercise and consequent muscular development. The present costume — the long corsets and heavy skirts, presses upon the abdominal muscles and prevents their mobility and consequent development — an important factor in assisting expulsion of the child and thus avoiding the extra exertion and consequent exhaustion of the uterine wall.

The forcible expulsion of the placenta either by pressure as in Crede's method, or by traction upon the cord, or both, too soon after the delivery of the child is a too frequent cause of post-partum hemorrhage. Thirty minutes or even an hour is not too long to leave the expulsion to natural resources.

Placenta previa, as has already been stated, always results in post-partum hemorrhage more or less severe since the lower uterine segment has but little contractile power after labor. Hence its occurrence should always be anticipated and proper treatment instituted.

Secondary post-partum hemorrhage — that occurring twenty-four hours after delivery — may be caused most commonly by the retention of placental fragments, placenta succenturiata, or portions of the membranes, particularly when some of the villi still remain attached to the uterine wall. Retained blood clots are less potent factors.

Occasionally hemorrhage may result from the dislodgement of the thrombi in the uterine sinuses, re-opening the veins. This might be produced by undue sudden muscular exertions or getting up too soon.

Interstitial and sub-mucous myomata prevent proper contraction of the uterus and consequently result in long-enduring secondary post-partum hemorrhage, retarding normal involution. Carcinoma may be overlooked at this time, and the foul-smelling discharge mistaken for a sapraemic condition.

Retro-displacements before involution takes place; the inhibition of intermittent uterine contractions by a full bladder and loaded rectum; active pelvic congestion from the too early resumption of sexual relations and getting about too early; the passive pelvic congestion caused by diseases of the lung, heart, liver and kidneys; defective innervation, acute infectious diseases and violent

emotional disturbance, are all potent factors in the production of secondary hemorrhage.

The etiology of post-partum hemorrhages being known, the diagnosis and correct treatment are more simple. The existence of external hemorrhage is obvious. If it occurs before the detachment of the placenta or after firm contractions of the uterus, lacerations of the cervix and vagina or of the uterus should be expected; after expulsion of the after-birth it arises from insufficient retraction of the uterus due to causes mentioned. If the hemorrhage is internal we then have general systemic conditions, seen also in external hemorrhage, such as lessened force and increased frequency of the pulse. The pulse in extreme cases might become almost imperceptible. Respirations are shallow and rapid. Marked restlessness, air-hunger and thirst, cold skin and clammy sweat and perhaps loss of consciousness, convulsions, and even death might follow.

Treatment should be first of all prophylactic. Too rapid, particularly instrumental dilation of the cervix, forcible use of forceps, version without anesthesia, or other operative procedures which produce lacerations of the birth canal, should be avoided. Ample time should be allowed for the contractions of the uterus to loosen and expel the placenta before Crede's method or traction upon the cord is attempted. As soon as the child is born the uterus should be grasped by the obstetrician or his assistant or nurse and firmly held until after the placenta is dislodged and for at least one hour afterwards. If this preventive measure is carried out, friction or more active manipulation being used to combat any tendency to abnormal relaxation, post-partum hemorrhage due to simple inertia would be prevented.

Ergot has for many years been used as a prophylactic agent. If the foregoing manipulations were carried out its use would not be necessary. Most text-books recommend its use after the birth of the placenta. But twenty to thirty minutes elapses before its effects are felt and consequently the patient might bleed to death. If the writer were to use it systematically he would administer it immediately after the birth of the child. The usual objection to this has been that it produces a premature contraction of the lower uterine segment and consequently prevents the expulsion of the placenta. This is as great a fallacy as that chloroform rightly used will produce hemorrhage. The writer has used chloroform practically in every case since beginning practice,

and for the past few years has almost never used ergot, and yet can not recall a case of true post-partum hemorrhage. (When occasion demands it, however, the writer is not opposed to use of ergot.)

By way of digression, it might be of interest to the members of this society to know that while ergot has been used as an abortifacient from the earliest periods by ignorant peasant women it was first used medicinally to stimulate uterine contractions during labor by a member of the medical profession of this vicinity, Dr. Stearns, of Waterford, N. Y., who was probably well known to local physicians at that time. The first information concerning the use of his "*pulvis parturiens*" is found in a letter dated 1807. From this letter it does not appear that he had any idea of the hemostatic properties of the drug, but these he fully recognized in a more extended article which appeared in 1822.

An initial dose of half a drachm may be given immediately after the birth of the child and repeated at hourly intervals where hemorrhage is anticipated. In primipara it is practically never necessary, but in multipara, where it is more often needed, the contractions produced also increase the after-pains. If the binders are used as a measure to prevent hemorrhage, the patient should be changed to different positions, and as soon as the danger of hemorrhage disappears these binders should be removed else retro-displacements and consequent secondary post-partum hemorrhage may result. The bladder should be emptied frequently and the bowels kept active, and what is of utmost importance the patient should be kept as quiet as after a major surgical operation — free from the pernicious consequences of the excitement caused by the many friends who insist upon congratulating the mother and seeing the child.

In the presence of severe post-partum hemorrhage prompt and vigorous measures are demanded. If the uterus has not been emptied of the whole placenta and membranes this should be done by Crede's method, and if necessary by introducing the sterile hand into the uterine cavity. One hand may be left in the cavity, the other hand compressing the uterine wall upon the hand within — a very simple method.

Every one has noticed how easy it is to palpate every portion of the abdominal cavity immediately after labor, so that, in the event of hemorrhage, pressure may be exerted upon the abdominal

aorta by the operator or, better, by his assistant, leaving the former free to prepare for other measures.

Pressure upon the abdominal aorta is produced by the method of Momburg, who used a rubber tube, winding it several times around the waist and drawing it tighter if hemorrhage does not cease, much the same as an Esmark's bandage is applied upon the extremities; this has recently been tried very satisfactorily in Bumm's clinic in Berlin.

Faradization of the uterus is most effectual in securing good contractions, but the apparatus is seldom available. Catching both lips of the cervix and drawing the uterus well down into pelvic cavity often acts very promptly and if other measures have not been successful packing the uterus full of sterile gauze, or, in the case of imminent danger — the possibility of sepsis should be forgotten — and the uterus packed with a towel or anything else handy. Some years ago certain tubes were sold everywhere for packing the uterus, necessitating the use of strips of gauze from one to one and a half inches wide. Such a procedure would take so long that the patient might be dead several hours before the uterine cavity was filled. It is seldom that a fountain syringe is not at hand, hence one of the most reliable means — that of hot intra uterine douches — is available. These douches must be copious at a temperature of 120 degrees Fahrenheit; the hemostatic action is increased by the addition of acetic acid (3% or more), or alcohol. The injection of perchloride of iron solution is to be avoided because of the danger of pulmonary embolism, and the use of ice is also a doubtful expedient. After the douche the cavity should be packed with plain gauze or tampons soaked in acetic acid solution, alcohol or adrenelin. The foregoing procedure should always be followed out after every case of placenta previa immediately after delivery, because of the assured occurrence of hemorrhage, which can not be controlled by the administration of ergot.

General measures, such as elevation of the foot of the bed, removal of pillows from under patient's head, the hypodermic use of ergot, strychnine and morphine should not be neglected. Ten-grain Dover's powders were formerly used and are very efficacious. Since nursing the child provokes uterine contraction it should be put to the breast, unless the procedure disturbs the patient.

The acute anaemia may be relieved by subcutaneous or intra-

venous injections of normal salt solution or rectal enemata of the same; and the maintenance of the body temperature by artificial heat is especially important.

The treatment of secondary post-partum hemorrhage does not require such heroic measures, and is easily accomplished so soon as the cause of the flow is established.

In no abnormal conditions is the motto which I have seen upon the operating room in Freidburg more ápropos — "Qui bene diagnoscit bene curat."

Editorial

WITH Captain Cocke, and there drank a cup of good drink which I am fain to allow myself during this plague time, by advice of all, and not contrary to my oath, my physician being dead, and chyrurgeon out of the way, whose advice I am obliged to take. In much pain to think what I shall do this winter time, for going every day to Woolwich, I cannot, without endangering my life; and staying from my wife at Greenwich is not handsome.

Diary of SAMUEL PEPTS.



The Alcohol Problem.

The papers presented at the semi-annual meeting of the American Society for the Study of Alcohol and other Drug Narcotics, held at Washington, last March, have had the unusual honor of recognition by the Federal Government, and have been published as a Senate document under the sponsorship of Senator Gallinger. The contributions are classified under the five topics of the "Action of Alcohol on Cell and Tissue," "Conditions Favorable to the Growth of Alcoholic Inebriety," "Responsibility and the Public Care of Inebriates," "Forms of Treatment," and the "Sociological, Physiological and Medical Aspects of the Alcoholic Problem."

From histological study Dr. Henry J. Berkley finds that the action of alcohol in acute poisoning is more pronounced upon the blood vessels than the nervous elements of the brain, although the action upon the nerve cell is apparent; and that the same effect in modified form follows the use of limited quantities continued over a considerable time.

Dr. Winifred S. Hall states definitely that alcohol cannot be considered as a food, but is a narcotic, decreases the efficiency of muscle, gland and nervous system, and, given in minute quantities to lower animals, seriously impairs fecundity.

The management of alcoholics is discussed at length, but the difficulty of control is not removed. It is proposed to establish state colonies, but it has not appeared from attempts in this direction that the probable recidivism of the patient can be prevented by any legal scheme of coercion or restraint of liberty. This has been the difficulty. The patient is admitted in an alcoholic intoxication, recovers rapidly, and demands his release. As he is in normal mental condition the state hesitates to deny this inalienable right. The most that has been accomplished in this direction has been the detention of the class designated as "habitual drunkards."

Dr. Howard A. Kelly summarizes in most vigorous phraseology his conclusions upon the use of alcohol in everyday life, as follows:

"(1) Alcohol is non-efficient as a food, a most awful, wasteful substitute.

"(2) May be classed as a drug and a poison.

"(3) Has no rightful position as a medicine.

"(4) Destroys individual, domestic, and civic felicity.

"(5) Increases taxation by filling prisons, madhouses, and workhouses.

"(6) Greatest foe to civilization in heathen lands.

"(7) Therefore could be wholly abolished with profit.

"(8) 'Therefore, as one of the human family, an individual member has no right to introduce into the household or use for his own pleasure, even moderately, that which may hurt even one other member or set at work an evil influence he has no well-grounded hope of controlling.'"

Dr. T. D. Crothers, the Secretary of the Society, to whose enterprise and persistence much of its activity must be attributed, suggests a new thought in his expectation that the increasing commercial use of alcohol now promises to create a demand which will prohibit all other uses, and foretells the extinction of the saloon.

When Shakespeare wisely refrained from introducing into his mouth the enemy which would steal his brains, he stated a truth which several centuries have been slow to recognize. His poetical

concept is now sustained by the researches of science, and the American Society is to be congratulated upon the force with which in season and out of season it labors toward the demonstration of the validity of his great epigram.



The vigorous steps of the last three years toward the extinction of tuberculosis have been most energetically taken in Albany, and the various organizations concerned with the preservation of public health have been active in meeting this additional demand. After mature deliberation the Governors of the Albany Hospital have found a way in which this admirable institution may assume its share of the great work. A member of the staff, Dr. Van Rensselaer, upon his own initiative, secured property just outside the city limits, solicited subscriptions, constructed pavilions and began the treatment of patients. It was a most disinterested and responsible undertaking, and its prompt success is most creditable to its originator. Dr. Van Rensselaer has consented to a transfer of this institution to the Albany Hospitals, and the Governors have undertaken to raise subscriptions for its maintenance and the extension of its work. Dr. Van Rensselaer will continue as medical director, and as a member of the staff, doubly secure an administration alike creditable to the hospital and efficient for the patients. The County of Albany will remunerate the institution for the maintenance of public patients. Such arrangement appears ideal, and incidentally places the Albany Hospital among the very few institutions of the country equipped to treat every form of acute disease.

Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF HEALTH — ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, DECEMBER, 1909.

Deaths.

	1905	1906	1907	1908	1909
Consumption	23	17	20	17	23
Typhoid fever	1	2	2	2	3
Scarlet fever	1	0	1	1	1
Measles	0	0	0	0	5
Whooping-cough	1	0	0	0	0

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

In the Bureau of Plumbing, Drainage and Ventilation there were two hundred thirty-two inspections made, of which eighty-six were of old houses and one hundred forty-six of new houses. There were sixty-six iron drains laid, thirty connections to street sewers, thirty tile drains, fifty-two cesspools, one hundred three wash basins, ninety sinks, seventy-six bath tubs, seventy-one wash trays, one hundred nineteen tank closets, four shower baths. There were ninety-four permits issued, of which seventy-nine were for plumbing and fifteen for building purposes. Fifty-nine plans were submitted of which thirteen were of old buildings and forty-six of new buildings. Forty-seven houses were tested, three with blue or red, four with peppermint, and there were forty water tests. Twenty-four houses were examined on complaint and sixty-eight were re-examined. Eleven complaints were found to be valid and thirteen without cause.

BUREAU OF CONTAGIOUS DISEASE.

Cases Reported.

	1905	1906	1907	1908	1909
Typhoid fever	2	3	12	13	7
Scarlet fever	14	14	31	9	22
Diphtheria and croup	10	65	15	19	12
Chickenpox	3	0	3	25	5
Measles	1	2	31	3	115
Whooping-cough	0	0	0	0	0
Consumption	0	2	28	36	29
Totals.....	30	86	120	107	190

Contagious Diseases in Relation to Public Schools.

	Reported		Deaths	
	D.	S.F.	D.	S.F.
Public School No. 2.....	1	..	..	..
Public School No. 3.....	..	1	..	..
Public School No. 4.....	..	1	..	..
Public School No. 17.....	..	2	..	..
St. Ann's School.....	..	1	..	..
Number of days quarantine for diphtheria:				
Longest..... 23	Shortest..... 6	Average..... 14		
Number of days quarantine for scarlet fever:				
Longest..... 40	Shortest..... 6	Average..... 26		
Fumigations:				
Houses..... 41	Rooms..... 202			
Cases of diphtheria reported.....				12
Cases of diphtheria in which antitoxin was used.....				10
Cases of diphtheria in which antitoxin was not used.....				2
Deaths after use of antitoxin.....				1

BENDER REPORT ON TUBERCULOSIS.

Positive	Negative	Failed	Total
9	30	0	39

TUBERCULOSIS.	
Living cases on Record December, 1909.....	422
Reported during December, 1909:	
By telephone.....	1
By Bender	6
By card	5
	<hr/> 12
Dead cases reported by certificate.....	12
	<hr/> 24
	<hr/> 446
Dead cases previously reported.....	6
Dead cases not previously reported.....	12
Duplicates	1
	<hr/> 19
Living cases on record January 1, 1910.....	427
Total tuberculosis death certificates filed December, 1909.....	18

BUREAU OF PATHOLOGY.

Bender Laboratory Report on Diphtheria.

	1905	1906	1907	1908	1909
Initial positive	10	43	15	17	15
Initial negative	24	78	70	37	81
Release positive	13	92	24	24	6
Release negative	11	87	68	40	70
Failed .....	..	11	2	29	6
	<hr/> 58	<hr/> 311	<hr/> 179	<hr/> 147	<hr/> 178
Totals.....					
Test of sputum for tuberculosis:					
Initial positive	2	4	4	11	12
Initial negative	1	3	21	27	48

MISCELLANEOUS.

Mercantile certificates issued to children.....	42
Factory certificates issued to children.....	14
Children's birth records on file.....	56
Number of complaints of nuisances.....	19
Privy vaults	2
Plumbing	7
Other miscellaneous complaints.....	10
Total number of dead animals removed.....	486
Cases assigned to health physicians.....	124
Number of calls made.....	363

Medical News

Edited by Arthur J. Bedell, M. D.

ALBANY GUILD FOR THE CARE OF THE SICK—DEPARTMENT OF VISITING NURSING.—STATISTICS FOR DECEMBER, 1909.—Number of new cases 168; classified as follows: Dispensary patients receiving home care, 36; district cases reported by health physicians, 2; charity cases reported by other physicians, 44; moderate income patients, 86; old cases still under treatment, 137; total number of cases under nursing care during month, 305. Classification of diseases for the new cases: Medical, 60; surgical, 17; gynecological, 0; obstetrical under professional care, mothers 42, infants 37; eye and ear, 3; skin, 3; throat and nose, 2; dental, 0; contagious diseases in the medical list, 16; removed to hospital, 9; deaths, 13.

Special Obstetrical Department—Number of obstetricians in charge of cases, 1; medical students in attendance, 2; Guild nurses in attendance, 2; patients, 2; visits by attending obstetrician, 1; visits by students, 12; visits by nurses, 17; total number of visits for this department, 30.

Visits of Guild Nurses—(all departments): Number of visits with nursing treatment, 1,497; for professional supervisions of convalescents, 337; total number of visits, 1,834; cases reported to the Guild by two health physicians and forty-four other physicians, graduate nurses 8, and pupil nurses 11 on duty.

Dispensary Report.—Number of clinics held, 100; number of new patients, 127; number of old patients, 509. Classification of clinics: Surgical, 13; nose and throat, 8; eye and ear, 15; lung, 15; nervous, 4; skin and G. U., 8; stomach, 3; medical, 12; children, 12; gynecological, 9.

THE MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY held a regular meeting at the County Court House, Wednesday, January 19, 1910, at 8.30 p. m. Prof. John L. March, of Union College, presented a paper on "Mrs. Eddy's Book." Dr. N. A. Pashayan on "What is Psychotherapy?"

MEDICAL SOCIETY OF THE STATE OF NEW YORK.—The 104th annual meeting of the Medical Society of the State of New York was held at Albany, N. Y., January 25 and 26, 1910, under the presidency of Dr. Charles. G. Stockton, of Buffalo.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.—A law recently enacted requires that all physicians shall file with the local Bureau of Health certificates of death of patients dying in their service within twenty-four hours after such death. Another law recently enacted requires the report of all births to the local bureau of health within thirty-six hours after such birth. Both the certificates of birth and death must be completely filled in and all information desired made complete so far as is known. The Bureau of Health is prepared to furnish boxes containing a solution of nitrate of silver for instilling in the eyes of new-born children in the discretion of the physician. Such packages contain a sterile solution of nitrate of silver and a sterile dropper and the necessary instructions. These packages will be furnished to physicians without cost on request. With the new year an endeavor will be

made to secure more thorough control of cases of tuberculosis. Sputum boxes, paper containers and napkins will be furnished within the limit of the appropriation. Notice of removal of tuberculosis patients is requested, as well as the prompt report of all new cases. Your co-operation is requested in the prompt and complete report of deaths and births and in the efforts being made to check as far as possible the spread of tuberculosis.

A LIST OF THE TUBERCULOSIS SANATORIA in Canada, New Jersey, New York and Pennsylvania has been printed and distributed by the Metropolitan Life Insurance Company.

THE PROVIDENT SAVINGS LIFE ASSURANCE SOCIETY has also issued a special bulletin to its policyholders outlining preventive measures against pneumonia, tuberculosis and typhoid fever.

NATIONAL TRAINING SCHOOL FOR CERTIFIED NURSES.—The training school formerly operating under the name of Eastern New York School for Certified Nurses has been recently incorporated as the National Training School. After six months of didactic and clinical instruction nurses are graduated. The aim is to furnish lower-priced attendance although competent to take care of many of the ordinary cases of illness, but in no way interfering with the regular hospital graduate, who has a distinct field of her own. The school is now located at 285 Lark St., in the building recently purchased and equipped by the board of directors.

PERSONALS.—DR. ANDREW MACFARLANE (A. M. C. '87) has moved from 198 Washington Avenue to 274 State Street, Albany, N. Y.

—DR. W. G. MACDONALD (A. M. C. '87) has returned from his western trip.

—DR. H. L. K. SHAW (A. M. C. '96) is occupying his new office at 361 State Street, Albany, N. Y.

—DR. FREDERICK I. JANSEN (A. M. C. '98) is located at 1815 Harrison Street, Seattle, Wash.

—DR. MALCOLM DOUGLAS (A. M. C. '04) has opened an office at 274 State Street, Albany, N. Y.

—DR. WILLIAM A. KRIEGER (A. M. C. '06) was recently appointed city physician of Poughkeepsie, N. Y.

—DR. WILLIAM L. MUNSON (A. M. C. '08), after a year's residence in the Albany Hospital and several months as pathological house officer, has opened an office in Granville, N. Y.

MARRIED.—DR. WALTER A. REYNOLDS (A. M. C. '06) and Miss Bertha E. Winne, of Albany, N. Y., were married on December 25, 1909. Dr. and Mrs. Reynolds will reside at 322 Clinton Avenue, Albany, N. Y.

DIED.—DR. RENSSELAER PLATNER (A. M. C. '46) died at Germantown, N. Y., November 19, 1909.

—DR. ALFRED H. HOADLEY (A. M. C. '86) died from the effects of blood poisoning December 29, 1909, at his home in Northampton, Mass., aged 54.

—DR. WILLIAM C. MCCULLOCH (A. M. C. '97) died at the home of a patient in Gloversville, N. Y., January 8, 1910, of apoplexy.

In Memoriam

RENSSELAER PLATNER, M. D.

Rensselaer Platner graduated at the Albany Medical College in the class of 1846. He then commenced the practice of his profession at Taghkanic, Columbia County, N. Y., where he remained until the year 1861, when he moved to Clermont, N. Y., at which place he practiced until the fall of 1882. At that time he went to Germantown, N. Y., with his son, W. B. Platner, where he spent the remainder of his life in practice most of the time. He held the appointment of health officer at Germantown for a number of years, in fact up to the time of his death, which occurred on the 19th day of November, 1909, after an illness of eleven weeks in bed following an attack of enteritis.

He held the appointment of postmaster at Germantown for the term of four years; while at Taghkanic he was the principal founder and builder of the Lutheran Church and parsonage at that place.

W. B. P.

WILLIAM C. McCULLOCH, M. D.

Dr. McCulloch died suddenly and unexpectedly of cerebral hemorrhage while making a professional call January 8, 1910. He had been especially busy for the past few months, his time and energies having been taxed to their utmost. The writer had warned him on several occasions recently and suggested to him the necessity for more rest, he being of a conscientious, neurotic temperament and especially sensitive to the trying obligations of our profession. This unselfish and absolute devotion to his patients had caused him to lose sight of the fact which he often impressed upon his fellows, the dangers of too close application to his calling. He had carried on his professional duties as usual the day before his death, and after his evening hours presided at a meeting of the Board of Health, of which he was president. It was during these deliberations that he was called to the bedside of a patient who had been giving him some anxiety, and here while bending over his little patient the summons came. He died a martyr to his profession. He died at his post. It seems fitting, if he must go, that he should be taken under such sublime circumstances, relieving the suffering, administering to the weak. He was always highly sensitive to his obligation to humanity and would often refer to our profession's mission in this direction.

Dr. McCulloch was not a materialist or commercialist in the slightest degree. He was an idealist of the highest type; how best could he serve humanity was always his first thought. His absolute integrity stood out in every move of his gentle manner; no one could be long in his presence without being impressed with this fact. His first consideration of any question was, What is morally right, and when once satisfied no power could divert him from a proper course.

Dr. McCulloch was born at Voorheesville, Albany County, N. Y., and was thirty-eight years of age. He moved with his family to Gloversville

about eighteen years ago. He was a son of the late Dr. Charles McCulloch (A. M. C. '77). Public and private schools supplied his early education and he received his degree from the Albany Medical College in 1897, being associated with his father until the time of his death eleven years ago, then assuming the practice which they had both built up. He was a member and ex-president of the Fulton County Medical Society, a member of the Gloversville and Johnstown Medical Association, the Medical Society of the State of New York and the American Medical Association. Dr. McCulloch had served his city in various ways, as county and city physician and as member of the common council. He was president of the board of health. He was connected with the staff of the Littauer Hospital. He devoted a large amount of his time to board of health matters and especially to the milk problem. He leaves three younger brothers and a widowed mother.

I have briefly and imperfectly presented the outlines of the biography of our brother, but here I pause. Words seem inadequate to express and language seems empty to pay fitting tribute, when one looks out over this man's life history, his struggles and achievements, his life of self-sacrifice, his strong, clean and noble character. He was highly distinguished in every relation of life. In his family he was tender, considerate, kind and affectionate. To them the loss is stunning. They miss his master mind, his encouraging, sustaining and protecting care, but they do not mourn alone. The medical profession has lost a noble character. He was a thorough student, earnest, ambitious and endowed by nature with keen intellectual capacities far above mediocrity. No death has caused more heartaches or profound sorrow in this city than this. The community loved this man as he had loved it. As a citizen he loved his country, her institutions and her greatness. He was loyal and patriotic. As a philanthropist he had confidence in and loved his fellow-man. He loved his friends and placed all that he had at their command. To the talented he gave his admiration, to the wealthy his courtesy, to the poor his advice, his services, his substance; they never sought his aid in vain. His mission was to heal the sick, alleviate pain and suffering. Remuneration was always a secondary consideration. He loved science and longed for greater knowledge. His nature was positive, aggressive. He went deep into the deeper subjects of our profession. He loved nature and revelled in her beauties. He loved his church and her principles. Ostentation had no place in his character. He lived a simple life and in all his intercourse with the world he was dignified, courteous, affable, gentlemanly and kind.

No physician had attained greater prominence in his profession locally than Dr. McCulloch. No physician was "better read" in this section of the State. He was always on the alert for advanced ideas in his profession and was a diagnostician of the first rank.

The medical fraternity and city has sustained an irreparable loss. "Being dead, he yet lives" in the hearts of an appreciative profession and community.

ROBERT LINCOLN ELLITHORP,
(A. M. C. '97).

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

Principles and Practice of Physical Diagnosis. By JOHN C. DACOSTA, Jr., M. D., Associate in Clinical Medicine, Jefferson Medical College, Philadelphia. Octavo of 548 pages, 212 illustrations. Philadelphia and London, W. B. Saunders Company, 1908. Cloth, \$3.50 net.

This most excellent book is the latest contribution to the literature of physical diagnosis, which, though already full, yet has much room for a work of this character.

It is divided into seven sections of which the first is devoted to a general discussion of the methods and technique of physical examinations, including such allied subjects as Sphygmomanometry, Sphygmography, Paracentesis, Radiography, and the various applications and modifications of the Tuberculin Reaction. The second section considers the examination of the thorax as a whole, independent of the cardio-respiratory contents. The third section is given over to the examination of the Broncho-pulmonary System, and the fourth to a full discussion, from the standpoint of clinical pathology and physical examination only, of the Diseases of the Broncho-pulmonary System and the Mediastinum. The fifth and sixth sections are respectively devoted to the Examination of the Cardiovascular System and to the diseases of the same system. In the last section is discussed the Examination of the Abdomen and the Abdominal Viscera. The text is followed by a complete index.

The text is excellent, the descriptions of methods full and clear and, as the author states in his preface, "to meet the requirements of junior students especial consideration is given to clinical anatomy and to the origin, mechanism and meaning of normal physical signs." Especially favorable comment is due to the emphasis which is laid, in the sections devoted to the diseases of the broncho-pulmonary and cardiovascular systems, upon the clinical pathology of the various conditions discussed. "Throughout," to again quote from the author's preface, "a consistent endeavor is made to keep in view the prime importance of interpreting morbid objective data, individual or grouped, on the basis of pathologic cause and physical effect, and to analyze such findings in the light of full clinical inquiry."

There is no detailed discussion of the diseases of the abdominal viscera, but reference is made to them in the discussion of the examination of the abdomen and its contents.

The book is well printed on excellent paper and is abundantly illustrated with photographs of patients showing various clinical conditions, photographs of pathological specimens and of apparatus, with diagrams, many showing much originality of thought and expression, radiograms, cardiograms, etc. The case photographs are excellent, both in subject and execution, but the photographs of pathological specimens show little, especially those of various pulmonary conditions, and some could have been advantageously omitted. The standard figure diagrams could be improved by omitting the head, which is never used, with its expressionless

face. We question the advisability and good taste in the use of the Reck-nagel model studies upon which to represent various superficial points and areas, as of pain, dullness, etc. They are neither artistic nor beautiful, and we are of the opinion that diagrams would have served the author's purpose much better. They tend to the sensational rather than the practical, and the best professional, and as medical books, particularly text books, should contain as little sensational matter as possible, we consider the work would have been much improved by omitting what to us is a distinct blemish to its otherwise uniform excellence.

C. K. W., JR.

International Clinics, a quarterly of illustrated clinical lectures and especially prepared original articles on treatment, medicine, surgery, etc., by leading members of the medical profession throughout the world. Edited by W. T. LONGCOPE, M. D., Philadelphia. Volume III. Nineteenth series. 1909: J. B. Lippincott Company, Philadelphia and London.

"Women in Medicine," by James J. Walsh, of New York, is a most interesting essay. The writer says: "Ordinarily we are apt to presume that the entrance of women into the medical profession is a comparatively recent event." He then proceeds to show by historic data "that from the earliest dawn of modern medical education women were given some opportunities, and for the better part of several centuries, at least, apparently as good opportunities, for the education in medicine and the practice of the medical profession as are afforded even in our own time."

The University of Salerno, in Southern Italy, appears to have been the cradle for female medical students. Anatomy, gynecology, obstetrics and hospital administration are the fields which they have most assiduously cultivated.

Among other articles of merit which the volume contains might be mentioned "Exophthalmic Goitre from the Standpoint of the Clinical Surgeon," by Albert J. Ochsner; "Some Postoperative Complications," by Daniel N. Eisendroth and David C. Straus; "On Cases of Unforeseen Death in Scarlet Fever," by Drs. Gouget and Dechaux.

The colored plates which this volume contains deserve special commendation. They show the hands and finger nails in vasomotor ataxia, and a section of lung showing embolus.

H. D. C.

Biographic Clinics. Volume VI. By GEORGE M. GOULD, M. D. Philadelphia. P. Blakiston's Sons. 1910. Price, \$1 net.

Dr. Gould's latest volume of *Biographic Clinics* contains nearly 500 pages of reading matter. It is a continuation, so far as purpose is concerned, of his previous volumes, and will be, he states in the first chapter, "Valediction," the last one. The book contains chapters on the case of Jonathan Swift, reports of almost 100 cases of eyestrain causing symp-

toms of systemic disease of various kinds, reports of patients with epilepsy cured by glasses, and chapters on Senility, Meniere's Disease, Ophthalmovascular Choke, Refraction Changes in Glycosuria, the Neuro-pathic Diathesis, the Practitioner and Refraction, and Medical Blunders.

The same good features that made Dr. Gould's former books so readable are present in this one, the same bad features which marred previous volumes mar this. So far as Dr. Gould's main purpose is concerned, emphasizing the importance of eyestrain, we hope and believe that he has had considerable success. We must, however, again express our regret that his writings, vivid as they are and containing important truths as they do, are strongly tinged with exaggeration and at times with unfairness. There can be little doubt that the mass of the profession was, and perhaps is yet, lacking in appreciation of the importance of eyestrain, but that eyestrain plays the rôle in human pathology that Dr. Gould thinks it does is decidedly not proven according to the best judgment of men just as competent to judge as Dr. Gould and much less prejudiced. According to Dr. Gould any man who has the temerity to disagree with him is stultifying himself on account of medical politics, dogmatism or personal ambition, or else is incompetent. The type of mind that expresses itself in criticism of this sort is not that of the scientist, and it is a matter of regret that Dr. Gould has been unable to accomplish the good he has achieved in a better spirit.

G. B.

A Manual of Otolology. By GORHAM BACON, A. M., M. D., Professor of Otolology in the College of Physicians and Surgeons, Columbia University, New York. With an introductory chapter by CLARENCE J. BLAKE, M. D., Professor of Otolology in the Harvard Medical School, Boston. New (5th) edition, thoroughly revised. 12mo, 500 pages, 147 engravings and 12 plates. Cloth, \$2.25. net. Lea & Febiger, Philadelphia and New York, 1909.

There are a great many lengthy, elaborate text books on otology, but for the student, with the many subjects that he has to cover, the ordinary text book is too large and too technical. So that a more compact book, such as this one by Dr. Bacon, is of much more service to the student because it covers briefly all the practical points.

Dr. Blake, in the introductory chapter, truly states that in the important portion of clinical work in otology which includes hearing-tests, such knowledge of acoustics as is necessary to an understanding of the process of sound transmission within the ear itself, is of importance to the student and a necessity to the special practitioner.

The author has given his work a thorough revision and it contains a number of additions, such as the operations for tonsillectomy and the sub-mucous resections of the nasal septum.

A very excellent description of the various mastoid operations is given, with new illustrations of the Schwartze-Stacke operation.

Considering the book as a whole, it is probably one of the best of the smaller works on otology.

C. F. T.

The Insanity Law of the State of New York. A Compilation of Statutes Relating to the Insane and to Institutions for Their Care and Treatment; to Which Are Appended the Official Orders and Regulations of the State Commission in Lunacy. By FRANK P. HOFFMAN, 289 Clinton Ave., Albany, N. Y. 1909: Henry Stowell & Son, Printers, Troy, N. Y.

The Legislature of 1909 enacted the "Insanity Law," which is "An Act in relation to the insane, constituting chapter twenty-seven of the consolidated laws." The work of classifying and unifying the statutes of the State has been carried on for several years, and it is necessary from time to time to incorporate the numerous laws in one consolidated act of which the present "Insanity Law" is an example. The extent of the legislation may be surmised from the facts that sixty-four closely printed pages are required, and that few details of hospital administration are regarded as too trivial for the consideration of the Legislature, as, for example, the regulation of the salaries of subordinate employees.

Mr. Hoffman has reprinted the law in a convenient small volume, and has added the rules, regulations, forms and orders, salary schedules, prescribed by the State Commission in Lunacy the whole being made available by a carefully prepared index. A list of institutions for the insane might have been advantageously incorporated. With the exception of this omission the volume is complete and of value to all who are interested in this department of the State government. The price in paper is one dollar.

NEUROLOGY

Edited by Henry Hun, M. D.

The Occurrence of Remissions and Recovery in Tuberculous Meningitis; a Critical Review.

ALFRED E. MARTIN. *Brain*, August, 1909, Part CXXVI, Vol. XXXII.

Dr. Martin made some inquiries in the London hospitals as to the results of tuberculous meningitis, but was not satisfied that the methods of diagnosis as recorded established beyond doubt the presence of the disease. He regards lumbar puncture as the chief diagnostic step, as it gives information of: (1) the tension of the cerebro-spinal fluid; (2) the appearance and chemical nature of the fluid; (3) the presence or absence of tubercle bacilli or other organisms in the fluid by microscopical examination; (4) the presence of tubercle bacilli in the fluid by the experimental production of tuberculosis by inoculation of a susceptible animal like the guinea-pig; (5) the presence of tubercle bacilli by their cultivation in special media; and (6) the presence or absence of cell elements in the fluid, and the nature of the cells which are present.

The results of lumbar puncture are considered in detail and a review of the literature follows, with reference to recoveries, differential diagnosis and treatment. The results of this survey are drawn in the following conclusions:

(1) That undoubtedly long remissions and even recoveries do occur in tuberculous meningitis.

(2) That recoveries are possibly more frequent than has been believed, since no fewer than twenty undoubted cases have been recorded since 1894, while other cases of recovery have been published in which the same definite proof of the nature of the disease has not been afforded, but some of which were true cases of tuberculous meningitis.

(3) That in these cases either the resistance of the individual is so much greater than usual that the disease is checked early in its course, or the virulence of the bacilli is so much less than usual that the lesion in the meninges becomes localized and later undergoes a fibrous change.

(4) That the lesion in the meninges may at a later period form the focus of a fresh infection which usually terminates fatally, and that consequently the prognosis in these cases must be guarded.

(5) That no treatment up to the present has been discovered which has had any specific effect in promoting the favorable termination of the disease.

Further Consideration of the Value of the More Recent Cytological, Chemical and Biological Methods for the Differential Diagnosis of Syphilogenous Diseases of the Central Nervous System. (Weitere Erfahrungen über den Wert der neueren cytologischen, chemischen und biologischen Untersuchungs-methoden für die Differentialdiagnose der syphilogenen Erkrankungen des Zentralnervensystems, gesammelt an 295 neuen Fällen von organischen Erkrankungen des Hirns und des Rückenmarks.)

M. NONNE and W. HOLZMANN. *Deutsche Zeitschrift für Nervenheilkunde*, Band 37, Heft 3, u. 4, 1909.

A preliminary communication upon this subject was published in October, 1908, by Holzmann, and the present article is the result of a collection of two hundred and ninety-five new cases of organic diseases of the brain and spinal cord. The article treats of the results of four reactions, namely, pleocytosis, globulin-increase (phase I), complement-release by Wassermann's method, first in the blood and second in the spinal fluid. The cases include locomotor ataxia, paresis, and cerebro-spinal syphilis; under these latter forms were considered the possibility of luetic origin of multiple sclerosis, idiopathic epilepsy, neurasthenia, alcoholic pseudo-tabes and tumor of the brain. A large part of the article is concerned with the technique of the different tests under consideration, and also the difficulties in the diagnosis, especially in the determination of those diseases which may or may not be of specific origin. All of the material of the paper is summarized in the following conclusions:

1. In locomotor ataxia and paresis, lymphocytosis and globulin reaction (phase I) are present without exception. The reactions go hand in hand and are present in slight degree as well in imperfect and incipient as in fully developed cases.

2. Both reactions seldom fail in cerebro-spinal syphilis. In multiple

sclerosis both reactions are present in a minority of the cases and are weak; in idiopathic epilepsy, in neurasthenia, in alcoholic pseudo-tabes and in tumor of the brain both reactions fail if syphilis is not present. If there is a syphilitic history in these diseases, lymphocytosis is present, but very moderately shown under such conditions (phase I) and is wanting almost without exception.

3. The Wassermann reaction appears in the blood serum in locomotor ataxia in from sixty to seventy per cent. of the cases, but is almost always wanting in the cerebro-spinal fluid, or the materials producing the reaction are only present in small amounts. In paresis the Wassermann reaction is practically always present in the blood, and almost always present in the cerebro-spinal fluid. On this account the Wassermann reaction in the cerebro-spinal fluid appears to be an important method for the differential diagnosis between locomotor ataxia and paresis. In the hereditary form of paresis the Wassermann reaction may fail in the cerebro-spinal fluid.

4. In idiopathic epilepsy without syphilitic antecedents the Wassermann reaction fails in the blood and in the cerebro-spinal fluid. Cases presenting the Wassermann reaction in the blood are either cases of functional epilepsy with antecedent syphilis or a manifestation of syphilogenous disease of the brain.

5. In cerebral tumor the Wassermann reaction is wanting, both in the blood and in the cerebro-spinal fluid. In cases in which the Wassermann reaction appears in the blood there is either a tumor of syphilitic character or a combination of tumor of the brain with organic syphilitic disease; that is, a tumor of the brain occurring in a luetic patient.

6. Lymphocytosis and the phase I reaction do not stand for causal relation with the Wassermann reaction in the cerebro-spinal fluid. All four reactions are independent of one another in syphilogenous diseases of the nervous system.

7. Further investigations are necessary to determine whether cases of hereditary syphilitic diseases of the nervous system respond differently to tests of the serum than cases of acquired syphilis.

Contribution to the Differential Diagnosis of Paralytic Dementia, Multiple Sclerosis and Cerebro-spinal Syphilis. (Differentialdiagnose der Dementia paralytica. Sclerosis multiplex und Lues cerebrospinalis auf Grund der zytologischen und chemischen Untersuchung der Lumbal-flüssigkeit.)

STEPHAN SCEZSI. *Monatsschrift für Psychiatrie und Neurologie*, 1909, Band 26, Heft 4.

The first part of this paper is concerned with the technical description of the cytological and chemical methods of examination of the fluid derived by lumbar puncture, and this is followed by a synopsis of the results hitherto obtained, first, in paralytic dementia, second, in multiple sclerosis, and, finally, in cerebro-spinal syphilis; the findings of the differ-

ent investigators being tabulated. The author's present investigation included the examination of fifty patients, first with reference to the increased leucocytes and the relative proportions of lymphocytes and leucocytes to the whole number of the cells; second, upon the determination of the albumin by the methods of Esbach-Nissl and Nonne-Apelt. The results are controlled in some measure by examinations in other diseases of the nervous system and by the examination of the cerebro-spinal fluid obtained from seven healthy people. The conclusions from this work are summarized as follows:

1. Lumbar puncture is by no means an indifferent proceeding, as it is necessary in every case to obtain permission to perform it.

2. The number of cells is always increased in paralytic dementia, and this increase is almost always very pronounced; the pleocytosis is strongly positive in one hundred per cent. of the cases; the cells are mostly lymphocytic, of an average size of from three to four microns. In the cerebro-spinal fluid of paralytic dementia the cells often appear markedly degenerated in the sense that the protoplasm is distributed so that many times only a very small amount of it remains. The pleocytosis is one of the most constant early symptoms of paralytic dementia; it appears at that period when clinical symptoms sometimes are scarcely recognized.

3. With multiple sclerosis the cell content may be increased in moderate degree; in some cases of multiple sclerosis in which the clinical diagnosis was exact the examination for pleocytosis resulted negatively, and when the clinical diagnosis was somewhat indefinite pleocytosis was determined; it was always very slight; both kinds of cells are found in about the same proportion.

4. In cerebro-spinal syphilis the number of cells is often increased although pleocytosis may fail, but failure of pleocytosis is not a definite indication that syphilis is present; polynuclear leucocytes preponderate, with occasional isolated lymphocytes.

5. In other nervous diseases very varied results are obtained. In healthy people there is no pleocytosis, and only infrequently are isolated cells to be found.

6. The amount of albumin is increased in paralytic dementia and has very great value in the early diagnosis of this disease; it is frequently so abundant as to reach or exceed the fourth mark in the Nissl tube; the Nonne-Apelt test has greater significance than this approximative, quantitative determination of the albumin; the phase 1 reaction is obtained in one hundred per cent. of the cases, and in a very definite degree; phase 2 is also positive, although this has little diagnostic significance as it simply indicates the presence of albumin. The amount of albumin and the number of cells are increased in a great number of cases, though it must be noted that these two processes bear no definite ratio to each other.

7. In multiple sclerosis the number of cells is slight in contradistinction to the regular increase of albumin which may often reach higher than the tenth division of the Nissl tube; the Nonne-Apelt reaction gave in most cases only a weak or barely perceptible opalescence, and phase 1 was indicated in one case by slight cloudiness.

8. In cerebro-spinal syphilis the amount of albumin is generally increased, although this increase may fail as well as the pleocytosis.

9. The fluid from lumbar puncture from healthy people contains a very small amount of albumin, barely to the second division of the tube, and phase 1 is always negative.

Concerning the Relation of Genuine with Symptomatic Epilepsy. (Über die Beziehungen der genuinen zur symptomatischen Epilepsie.)

EMIL REDLICH, *Deutsche Zeitschrift für Nervenheilkunde*, 36 Band, 3 u 4 Heft, 18 March, 1909.

Genuine epilepsy is well understood as the classic, idiopathic form, which is to be differentiated from epileptic attacks of another kind and significance. These are considered in part from clinical and in part from pathological and pathogenetic standpoints.

The greatest etiological factor is heredity. The difficulty lies here in determining the value of an exciting cause, for the first attack may follow a fright, an infection, as after scarlet fever, a poisoning, as from lead, or uraemia. Some authors believe that hereditary epilepsy must be so regarded only when the disease develops without an exciting cause. The hereditary element need not be epilepsy, but any transmissible defect, and in many cases this is not to be found in the parents. But for symptomatic epilepsy there may be also a taint, as, for instance, in cases of Little's disease. Redlich has observed two children in the same family, one having genuine epilepsy and the other cerebral palsy with epilepsy, and Ranke has observed three, presenting epileptic idiocy, cerebral palsy, whose father was an inveterate alcoholic. Whatever the harmful agents, it should be definitely stated that there may light up, under proper conditions, a severe, coarsely anatomical brain lesion, in consequence of which transient or permanent, one-sided or complete epileptic attacks may occur, of classical type; whereas in other cases epilepsy develops which cannot be differentiated clinically or anatomically from genuine epilepsy. In scarlet fever, for instance, convulsions may occur and disappear with the recovery from the fever, whereas in other cases they form the beginning of genuine epilepsy. Syphilitic epilepsy may present the same possibilities, whereas hereditary syphilis may cause a genuine epilepsy. Among the toxic-infectious causes are pregnancy, parturition and the puerperium. These have a pronounced influence upon existing epilepsy, and occasionally form the starting point of eclamptic attacks which pass on into the true disease.

The inter-relations of trauma and epilepsy are very important. A blow upon the skull may induce an attack in an epileptic, or if the predisposition exists the first attack may follow the injury. Among the poisons alcohol is the most effective. It is most active in promoting attacks in epileptics, and in chronic alcoholics Jolly and Bratz have designated the manifestations as "constitutional epilepsy of drunkards." Arterio-sclerosis induces epileptic attacks through foci of softening and hemorrhages. From these considerations it is evident that besides heredity, which is the most im-

portant factor in the etiology of epilepsy, there are many incidental or accidental factors which provoke epileptic attacks in epileptics, or induce symptomatic epilepsy, which, for practical purposes must be regarded as the genuine disease.

From the clinical standpoint it is not easy to differentiate the two forms. The classical attack is universal, and the Jacksonian seizure begins in a limited region and spreads gradually, often without loss of consciousness. But genuine epileptic attacks may begin in a small area and spread. The aura is less usual in the Jacksonian form. Status is not infrequent in cerebral palsies of children, but may occur in true epilepsy. In general it may be said that the outcome of typical Jacksonian epilepsy, the existence of paralysis in the intervals, the progressive character of the symptoms, speak for an organic lesion, particularly tumor or abscess. There are cases in which a form of disease in the brain does not reach the motor areas, and the convulsive attacks may then simulate true epilepsy. The classic seizure of the genuine disease begins with the tonic spasm, followed by classic contractions, and the typical Jacksonian seizure consists of classic contractions to the end. A great deal has been written upon the probable source of the attacks, and these theories are of interest, but the determination, clinically, is not established.

An important consideration in the theory of epilepsy is the accompanying exhaustive paralysis. This follows, especially, the attacks of a focal lesion, but may occur in the genuine form, and, on the other hand, these may be absent in the former and quite pronounced in the latter. These exhaustive symptoms may be cortical or spinal in character, the former occurring more frequently, and among them are to be mentioned, particularly, difficulty and tardiness in mental energizing. There are also aphasia, dysarthria and stuttering. On the part of the extremities are seen ataxia and different degrees of paresis reaching absolute paralysis. Increased reflexes with Babinski's phenomenon are seen, or disappearance of the cutaneous reflexes, an indication of cortical inertia. The absence of reflexes is as a rule associated with hypnotic states. The exhaustive states are to be regarded as due to temporary disability of the brain.

Unilateral symptoms may occur in genuine epilepsy. The epilepsy which is associated with the cerebral palsy of children offers many disputed considerations. The most frequent group is the progressive infantile hemiplegic epilepsy of the French, characterized by a period of initial convulsion, which is followed by hemiplegia and epilepsy which develops later, and after an appreciable interval. Apart from the fact that the seizures may be limited to the affected side, there are certain peculiarities, as failure of the initial cry, rapid cessation of the attack and immediate return of consciousness. These patients form a large percentage of the inhabitants of the idiot asylums. It would appear that this category comprises a series of cases which stand midway between the genuine and symptomatic groups.

Redlich then reviews the present status of the pathological anatomy and histology of epilepsy. Among the cerebral lesions described in connection with genuine epilepsy, porencephalia, microgyria, lobular and tubercular sclerosis, sclerotic hemisphere-atrophy diffuse sclerosis, hydrocephalus,

megalencephalocoele, sclerosis of the cornu-ammonis, gliomatosis, miliary sclerosis, changes in the ganglion cells and in the fibrils, thickening of the walls of the blood vessels and various disorders in other organs than the brain. Though there is no characteristic lesion of genuine epilepsy, it is plainly established that in the great majority of cases pathological changes are present.

Redlich then discusses academically the philosophy of the subject, and states his conclusions as follows: The epileptic seizure is a peculiar form of reaction of the brain in response to different irritants or different injurious agents. These may be of external origin or may be produced within the organism, but their effects are identical. Under certain conditions, often as hereditary influence, or under the influence of toxic excitants or injuries to the head, cerebral diseases of diffuse or circumscribed extent are induced, and these predispose to the epileptic attack, and intensify the possibility of the epileptic cerebral reaction. In accordance with the individual peculiarities of the brain, the epileptic attack is manifested in different ways, and so it presents various modifications. The increased epileptic susceptibility of the brain may be transitory or it may be permanent. For the development of chronic epilepsy another factor is necessary, to wit, that every epileptic attack which is probably associated with slight histological changes, increases the susceptibility. In the so-called genuine epilepsy there is either from the beginning a pronounced increase of susceptibility or else the attacks result from diffuse or circumscribed anatomical changes, which may be developed under the most varied etiological conditions and at different periods of life. But, first of all, true epilepsy follows repetition of the seizures, which may inaugurate histological changes in the cortex, beyond the motor areas, and so induce other manifestations as, for instance, mental symptoms.

The Reflexes in Sydenham's Chorea. (Les Reflexes dans la Choree de Sydenham.)

BABONNEIX. *Archives de Médecine des Enfants*, December, 1908.

The action of the various reflexes in chorea have received a good deal of attention in medical literature. The author found a wide divergence of opinion, so he undertook a series of experiments in order to convince himself of the true state of affairs. Nicollet described a characteristic action of the patellar reflex. After percussion the leg will be projected a certain distance and then there will be a tonic contraction which will hold the leg in the same position for a varying period and then the leg will slowly redescend to the normal position.

The abdominal and cremasteric reflexes are seldom altered, but Nicollet claims the plantar reflex is often diminished and fails to respond after several successive excitations.

Babinski found that in certain cases the plantar excitation provoked the extension of the first phalanx of the big toe. This, according to the theory of Babinski, would indicate an organic lesion of the pyramidal tract.

The cases studied by the author are divided into two groups: (1) those in which the reflexes presented no anomaly and (2) those which presented certain modifications.

The first group consisted of 33 per cent. of the cases examined. In the second group 70 per cent. showed anaesthesia of the conjunctiva or pharynx, 36 per cent. an exaggeration of the tendon reflexes, 15 per cent. a decided diminished patellar reflex, and in 15 per cent. the Babinski phenomena. A careful examination of the pupillary reflexes was made and they were normal in every case.

The frequent existence of conjunctival and pharyngeal anaesthesia seems to point to a relation between chorea and hysteria. Undoubtedly there are cases of arrhythmic chorea of an hysterical nature which should be diagnosed from a true chorea. If the Babinski sign is present it might clear up the differential diagnosis, but its absence has no such significance.

The author concludes in regard to the tendon reflexes that they are of little importance in the diagnosis of chorea. In mild cases they are only slightly, if at all, modified.

Mental Disturbances in Chorea. (Ueber Geistesstörungen bei Chorea.)

F. VIEDENZ. *Archiv für Psychiatrie und Nervenkrankheiten*. Band 46, Heft 1, 1909.

The distinction between Sydenham's chorea and the St Vitus' dance of the Middle Ages must be fully understood. The latter presented wild, dancing, involuntary movements, which developed in its victims a state of ecstasy. This ecstatic dance exerted a strong impression upon the minds of the patients so that the disease as a mental contagion became widespread. This led to the appreciation of the condition as a severe form of St. Vitus' dance, which was called chorea Germanorum or chorea magna. The disease to-day described as St. Vitus' dance, or chorea minor, was first described by Sydenham, and is a disease of young people, seventy-five per cent. of the cases occurring between the years of six and fifteen, two-thirds of the patients being young girls. Diagnosis is easily made, and the prognosis is almost without exception favorable. Inherited neuropathic predisposition is relatively infrequent, but the disease very often follows acute articular rheumatism and endocarditis. The earlier writers regarded Sydenham's chorea as a neurosis, but now it is looked upon as an infectious disease. There is a marked distinction between chorea minor and the chorea described by Huntington, now known as hereditary chorea, progressive, chronic chorea, degenerative chorea or Huntington's chorea. This disease is hereditary, appears in families, beginning, as a rule, between the thirtieth and fortieth years. In Huntington's chorea there are almost always gross changes in the brain and the spinal chord or other membranes. Oppenheim and Hoppe have found microscopically disseminated encephalitis. In acute chorea, on the other hand, there is no definite pathological anatomy.

The relation of the mental to the motor disturbances of Sydenham's

chorea have been variously interpreted. Some writers think both are due to an infectious condition, and others believe that the abnormal muscular activity affects the mind. Möbius writes: (1) "Sydenham's chorea is a morbid condition brought about by an infection (2) it is frequently accompanied by a mental state resembling toxic delirium in a dreamy condition characterized by confusion and abnormal activity of the special senses, wandering of thought and restlessness."

Five illustrative cases are recorded by Viedenz. He cites quickly-passing conditions of dreamlike dullness, with marked hallucinations resembling the delirium of fever. At intervals the patients awoke entirely clear. Simultaneously with the choreic unrest the sensory disturbance increased and developed in a marked clouding of consciousness. Four of the five patients recovered.

PEDIATRICS

Edited by Henry L. K. Shaw, M. D.

Cyclical Vomiting in Children. (Vomissements cycliques chez les Enfants.)

COMBY. *Archives de Medicine des Enfants*, October, 1909.

Cyclical, periodic or recurring vomiting is defined as uncontrollable vomiting lasting from one to several days and returning after a variable interval of perfect health.

The author gives an historical resumé of this singular condition which was first described by De Grùere in 1838 under the title "Une observation de vomissements périodiques sans signes d'inflammation ni de lésion organique." It received very little attention until the last ten years, when quite a literature has appeared. Most of the writers lay much stress on the rôle of the acetone bodies, acetonuria, acetonemia, di-acetic acid and oxybutyric acid in bringing about the symptom-complex. The author states that acetonuria is found in all acute disorders in children and in itself has no significance, and that the three principal causes for its production are (1) elevation of the body temperature, (2) digestive disturbances and (3) inaction. So that there is nothing distinctive in its presence.

The author believes that there is a close relationship between cyclical vomiting and appendicitis. Of 104 cases that have come under the personal observation of the author, 51, or 50 per cent., had clinical signs of appendicitis.

The author's cases were between the ages of two and six, and there were slightly more cases in the female sex. A certain family predisposition was found in several instances. A neurotic family history was very frequent.

None of his cases terminated fatally.

Briefly, the symptoms are: sudden, profuse and almost continuous vomiting when the child appears to be in perfect health, loss of appetite, acetone odor to the breath, constipation, rapid emaciation, abdominal tenderness and very slight elevation of temperature.

The diagnosis is unimportant and often difficult especially during the first attack. Simple indigestion, accidental poisoning, migraine, intestinal obstruction, peritonitis, strangulated hernia, meningitis, appendicitis, etc., must be considered.

The medical treatment consists in the use of alkalis, such as the bicarbonate of soda in large doses, subcutaneous salt infusions, lavage and, if necessary, hypodermic injections of morphine.

The true remedy for cyclical vomiting, in the opinion of the author, is appendectomy. The child should be prepared for the operation as soon as appendicitis is recognized, whether during an acute attack or in the interval.

Salt Metabolism and Infantile Eczema. (Mineralstoffwechsel und Salings-eksem.)

BRUCK. *Monatsschrift für Kinderheilkunde, November, 1909.*

Finkelstein has advanced the view that the whey salts of cow's milk have an unfavorable influence on the constitutional eczema of infants. A nourishment containing a great deal of fat or albumin but low in salts he claims is curative.

In order to test out this theory the author carried on a series of investigations at the Heidelberg Children's Hospital on babies suffering from eczema. Part of the infants were fed on the Finkelstein "soup" and part on clear whey, and the clinical condition and the mineral metabolism carefully noted.

The results of these observations showed that there was a marked diminution in the excretion of salt when the babies were on the Finkelstein soup. In no instance did the eczema improve on this diet. The author believes, moreover, that positive harm may result from the withdrawal of the physiological quota of mineral matter.

There was an increase in the retention of salt in the organism on the whey diet. On this diet there was often an improvement and in some cases a cure in the eczema. This increase in the salt intake produced no disturbance.

These researches show that there is no relationship between the eczema of infants and an oversupply (salzstauung) of salts.

The Cremasteric Reflex.

CORNER. *The British Journal of Children's Diseases, November, 1909.*

A reflex act consists of the contraction of a muscle or group of muscles in response to a sensory stimulus, and the elements necessary for its production are an afferent nerve, a centre and an efferent nerve; the whole being called a reflex arc. The cremasteric reflex is the retraction of the testicle on stimulating the inner and upper aspect of the thigh. It

is a type of the superficial reflexes which are caused by stimulating the superficial nerves of the skin. The afferent and efferent nerves for its production are in the trunks of the first and second lumbar nerves; and the "centre" is in the lumbar enlargement of the spinal cord.

The author studied this reflex in 300 cases in order to obtain some knowledge of its natural history.

The cremasteric reflex is not present at birth but makes its appearance in the second year of life. There is considerable individual variation in this as in some cases it appears as early as the third month and in some cases of defective mental development it was not present at eight years.

Stimulation of the upper and inner portion of the thigh will produce unilateral responses on the same side. But if areas such as the skin of the perineum, the anal region, the penis or prepuce, are stimulated, the response of the testicles is usually equal and bilateral.

The author found a reflex in girls which corresponds to the cremasteric reflex of boys. It consists of a reflex contraction of the internal oblique muscle from stimulation of the thigh, lower abdomen or external genitalia. It does not appear until the second or third year of life. It is often very brisk in girls from six to eight years and disappears shortly after puberty.

The results of the author's observations are tabulated as follows:

(1) The reflex is best in healthy children. It is weakened or abolished in ill-health. It has therefore some value in detecting or in confirming the detection of malingering children.

(2) Any general disease will weaken or abolish this reflex.

(3) In the early stage of rickets the cremasteric reflex was much weakened and often abolished.

(4) All operations on the inguinal canal temporarily abolished this reflex.

(5) Incontinence of urine—enuresis—is in some cases caused by, and in many cases accompanied by, a superlative excitability of the lumbar centres. In such cases the testicles may be tonically retracted and incapable of responding to a cremasteric reflex. In other cases the condition may be dependent on worms, alimentary disturbances, bad habits, rickets, etc., when the testicles may be dependent and capable of response (or not) to a cremasteric reflex.

(6) In older children and young adults it is of practical importance to note the relation between the condition of the scrotum and the character of the cremasteric reflex. In babies and young children the scrotum is thin. As puberty approaches a layer or collection of involuntary muscular fibres appear in the subcutaneous tissue, the scrotum being thicker and, at the same time, being capable of contraction and relaxation. In healthy, active conditions the scrotum is contracted and rugose, with retracted testicles. In such cases, owing to the position of the testicles there is little scope left for a cremasteric reflex action. This is the condition in vigorous, healthy adults. In disease, sickness and nervous conditions the scrotum is often smooth and lax, with pendulous testicles. In such cases there may be a feeble cremasteric reflex retained. The contracted scrotum is dry, the lax scrotum usually moist.

ALBANY MEDICAL ANNALS

Original Communications

ON SPECIALIZATION IN MEDICINE.

*Delivered before the Medical Society of the County of Rensselaer,
January 11, 1910.*

By A. STUART M. CHISHOLM, M. D.,
Bennington, Vt.

Professor Thompson, a few months ago, in delivering the President's annual address to the "British Association for the Advancement of Science," deplored earnestly what he described as "Premature Specialization" as tending to "impoverish the individual." To the condemnation of specialization, as thus described, there can be neither rejoinder nor dissent, for the term "premature" prejudices the cause and implies condemnation in advance. This condemnation is open to the objection of not precisely defining the boundary between what is mature and what is premature, but leaves the decision where it is now, to the irresponsible judgment of eager personal ambition. But in regard to specialization without this qualifying adjective there exists no such prepossession. Specialization is due, indeed, to the development of human activities and to the multiplication of distinct fields for the exercise of human energies. The subdivision of these activities into separate pursuits is both inevitable and beneficial; inevitable, because it is due to the practical recognition of conditions that conform to the axiom that the whole is greater than any one of its parts, and beneficial, because only by the separation of human energies into distinct fields, can the interests of the whole be advanced and civilization progress. The records of human progress show conclusively that mainly through this division has advancement been achieved, and this necessity

is continually reproduced and these divisions of activity again subdivided to meet the requirements of the growing scope of human knowledge and effort.

We have a tolerably full and accurate knowledge of a time when individual men possessed in their own minds all the treasures of learning that their civilization held; when every man in the community was a critic of poetry if not a poet, and a judge of art if not an artist; when Sophocles and Phidias submitted their finished work to the judgment of the common people. And it was not without trepidation that the people's verdict was awaited, for Herodotus tells us that the Athenians condemned Phrynichus to pay a fine of one thousand drachmas for producing on the stage his play "On the Capture of Miletus," because it did not conform to the canon which they held to govern tragedy. But each individual could only know all there was to learn because that *all* was so limited. Since that time civilization has developed vast stores of history, science, literature, language, social customs, mechanic arts, that were then unknown, and it has become impossible for any individual, however acquisitive, to equal the scope of the Athenians.

To be sure, the world has seen in modern times some few men with a horizon so vast that it has seemed almost universal. Leibnitz was one. His face was turned to all the winds of human learning, his mind is said to have touched every point of the intellectual compass. Selden was accounted a prodigy of various learning in his time. Rabelais and Burton seem to have known all there was to know. Camden has been called the British Pliny. Dr. Hodgson says of Wordsworth and Coleridge that they "shed their light over the whole surface of human interest." When James Crichton was sixteen years old, he was master of twelve languages. When he was nineteen, he engaged to defend, extemporaneously and unaided, any position in law, medicine, mathematics, philosophy and theology. When he was twenty-one, he publicly challenged the famous University of Padua, offering to confute their views in philosophy and to expose their errors in mathematics. The arguments lasted four days and Crichton was judged successful in every contention. Two years later he was treacherously murdered.

But these men are the exceptions that prove the rule, for if they were not exceptions they would be no longer conspicuous, and perhaps they have been of less benefit to civilization than

many humbler men who have trodden their narrow round of simple duty, restricted to careful observation and accurate record.

Universality of genius, then, becoming impossible, a division of activities became necessary, and the separate branches of human effort became specialties. In the manufacturing and mechanic arts this specialization has marvelously multiplied their benefits. Complaint has been made that there are now no comprehensive lawyers like Sir Edward Coke. It is because the complex development of society has produced such an expansion of the legal field that no one lawyer is now able to till the whole, and law has become automatically subdivided into many specialties,—among them international, admiralty and criminal law; patent, probate and corporation law, and civil government, each of which has its especial practitioners. The very existence of the profession of medicine proves also the naturalness of such subdivision for, in a large sense, medicine and law are themselves specialties.

The statement has been often made that medicine is an offshoot of the church and that the thirteenth century marks the point of time when medicine was erected into a distinct science. The statement and the date are alike inexact and misleading. The antiquity of the healing art is indisputable. It is true that during the period beginning early in the seventh century, and ending with the fall of the Moslem power in Spain, in the middle of the thirteenth century, the intellectual degradation of Europe reached a point where all learning among Christian people was preserved by the priests as the only conservators of letters and science in Christendom, but it is also certain that they merely preserved and in no way improved the quality of their trust, for, during precisely this period, i. e., from the taking of Alexandria in 641 to the fall of Seville in 1248, almost exactly six centuries, polite and scientific learning fled to Bagdad and Cordoba, and the lamp of medical progress was carried onward in the hands of Mohammedans. Among the names that physicians love to honor are those of Rhazes, Avicenna, the Prince of Physicians, and Averrhoes, whose works were studied in the famous medical schools of Paris, Montpellier and Padua until nearly the beginning of the eighteenth century. It was this so-called Arabian school who discovered nitric and sulphuric acids and alcohol, and they were thus the pioneers of the modern science of chemistry.

It is interesting to recall the comparatively recent origin of medical specialties, for, in spite of Herodotus's well-known reference to the custom of the Egyptians, and in spite of the Hippocratic refusal to "cut for the stone," which implies that lithotomy was a distinct industry, the subdivision of medicine into specialties seems rather to have started in the sixteenth century than in the thirteenth.

Anatomy may be said to have begun with Vesalius. His great work, "*De Corporis Humani Fabrica*," published in 1543 with engravings by Giovanni, marks the inception of modern anatomy. Prior to Vesalius, the ecclesiastical doctrine of the resurrection of the body had brought down upon the heads of all who desecrated the human body by dissection after death, the anathema of the Church. To be sure, the Church could not always prevent disobedience, nor always punish it. Vesalius obtained his material for the study of anatomy by robbing the gibbets at night. Venice, in defiance of the decrees of Boniface VIII, passed a law allowing one dead human body to be annually used for dissection. Such however, was the dread of the thunder of the Church, that this law was, I believe, afterwards annulled and anatomy continued to be taught by dissecting pigs. I cannot learn whether the single curved tenaculum was then in use. Scissors certainly were known and excavations at Pompeii in 1819 brought to light many varieties of forceps that were used in the first century, but the only knife known to the early anatomists was the razor, an ignoble reminder of the origin of the art of surgery. The invention of the scalpel was due to either Fabricius or Caesalpinus, both teachers of anatomy in Padua in the latter part of the sixteenth century. Fabricius died in 1619.

Vesalius became physician to the Emperor Charles V in 1543, the year his anatomy came out, and attended him for thirteen years. In 1556, when Charles abdicated the throne and entered a monastery in Estremadura, Philip II succeeded to the Spanish throne and brought Vesalius to Madrid, where he came necessarily under the control of the Inquisition, then in the full vigor of its iniquitous activity. The tale of his early dissections was everywhere known and the Holy Office took up his case and condemned him to death. Philip II, not venturing to annul openly the decision of the Church, connived at Vesalius's escape from the Kingdom of Spain. The Church seems not to have

interested itself actively to promote the progress of medicine in the case of Vesalius.

The close connection between anatomy and surgery appeared two years after the publication of Vesalius's great work, *i. e.*, in 1545, when Ambrose Paré's essay on the treatment of gunshot wounds was published in Paris, and that great career commenced which culminated in 1573, the year after the Massacre of St. Bartholomew, in the publication of his monumental work "Deux Livres de Chirurgie." Pathology also dates from the same period with the publication, in Florence, of Benivieni's work on the "Secret Causes of Disease," in which he describes the condition of the organs as ascertained by examinations made post mortem.

It is not my purpose to enter in detail into the particular development of medical specialties, though the field is an inviting one; nor do I now wish merely to show that specialism is not of recent and factitious contrivance, as many seem to have thought, but a necessary result of the development and growth of medicine. What I do wish to consider is the reaction of specialization on the individual as well as its result on the profession.

Let us say at once that the effect upon the individual is, in concentrating his activity, to narrow his scope. Professor Thompson notes that it tends to "impoverish the individual." It is essentially an involution and not an evolution. He loses in breadth. The more intently he devotes all his energies to the development of his specialty, the more restricted becomes his intellectual horizon. If general culture can only be attained by the exercise of multifarious and comprehensive sympathies, then he who immures himself in a single cell, must deprive himself of the wide range and varied view that another enjoys, who seeks to enlarge and not to limit the scope of his life and fares at will through the broad field of human activities. This breadth of sympathy, this universality of interest is the purpose and glory of universities, but a university, at least as regards its faculty, is mainly an aggregation of specialists and its highest rewards go usually to men who devote themselves to special work. This is also true of the greater university of the world, and must therefore represent the rational culmination of special excellence.

But the tendency of specialization is to the complete absorption of the individual in his work. In the study of surgical pathology he forgets to develop the harmony of his being, and neglects his own culture for that of pathogenic bacteria. In the pursuit of the infinitesimal he loses sight of the infinite and spirit becomes an attribute of matter. Thus his nature is subdued to what it works in, like the dyer's hand. This, it seems to me, is the tendency of specialization, and this tendency must be more or less apparent to every specialist. Similarly his tendency in applied science is to utilitarianism and in religion to materialism, both of which are acknowledgments of a failure in moral perception.

But the "impoverishment of the individual" is not the purpose of specialization nor yet its principal result. Schiller, himself a member of our profession, points out the injury to the individual that is caused by the exploitation of one faculty and the submersion of the others. "With us," he says, "in order to obtain the representative word of human knowledge, we must spell it out with the help of a series of individuals," but he adds that it would be unjust to conceal the compensations with which Nature has provided for these individual injuries. "I will now readily acknowledge," he says, "that little as this practical condition may suit the interests of the individual, yet the species could in no other way be progressive. Partial exercise of the faculties undoubtedly leads the individual into error, but the species into truth." Each individual, as knowledge expands and specialties increase, contributes less and less toward this representative word, but the word itself, to continue Schiller's figure, becomes progressively finer, more exact and more complete, while each subdivision becomes also more and more essential to the perfect development of the whole. De Quincey, in his essay "On Superficial Knowledge," observes, "with regard to Medicine, the case is no evil but a great benefit—as long as the subdividing principle does not descend too low to allow a perpetual re-ascent into the generalizing principle which secures the unity of the science." In the separate provinces of knowledge, he says, "we are of necessity more profound than our ancestors; but, for the same reason, less comprehensive than they. Is it better to be a profound student or a comprehensive one?" and he answers this question by saying, "It is better for the interests of the individual that the scholar should aim at comprehensive-

ness, and better for the interests of knowledge that he should aim at profundity."

So specialization, while impoverishing the individual, has enriched the profession. What the specialists have lost, medicine has gained. The artists have become smaller but the art greater. The individual has sacrificed scope to depth, "comprehensiveness" to "profundity;" that is, he has sacrificed himself to his profession, but such a sacrifice ennobles the specialist.

I suppose it will not be questioned that, whatever Sir Isaac Newton's other attainments were, he was preëminently a specialist. Well, when in 1687, he formulated the Theory of Gravitation, he unfolded a thought of the Divine Mind,—he explained one of the processes of Nature. With becoming reverence, we may say that God had enacted, from the beginning of Time, as one of the conditions of the existence of matter, that every body in the material universe should attract every other body with a force directly as its mass and inversely as the square of its distance. Newton revealed this law. This is science, a glimpse of God's purpose, a Divine thought explained to us. So Epictetus was a specialist on a higher plane and revealed some of the laws of spiritual life. So, too, Pasteur, in ascertaining the bacterial origin of disease, established medicine on a truly scientific foundation and added a uniformity of method, which medicine had never had, to a uniformity of purpose, which it had always had. Perhaps, too, in a similar way, Psychology may come to the aid of Religion and formulate a universal belief and establish a uniform system of worship. These are the high prizes of specialization, these and others like them. Not every specialist may bear such a message, it is not given to every man to reach Corinth, but every specialist is, after the spirit, of the kin of Newton and St. Paul and Pasteur and Wm. James.

In taking for my theme the remark of Professor Thompson, it was not my purpose to question his statement, but to expand it by showing that the impoverishment of the individual is the result not only of premature specialization but, indeed, of all specialization as such. That premature specialization degrades also the science that is specialized is likewise incontrovertible, but I have preferred to dwell rather upon the benefits that accrue

to science from wise and legitimate specialization,—such specialization as proposes to itself the advancement of science only, even by the sacrifice of the individual.

Now the question naturally rises, Is the sacrifice of the individual inevitable, or does there exist some way to reconcile these two seemingly opposite tendencies? Perhaps, if we were to consider them, as regards the individual, not as antagonistic but as complementary, the difficulty of reconciliation will seem less hopeless, or rather they will require not so much reconciliation as adaptation. We may recognize the paramount claim of Medicine without wholly forfeiting the privileges of the individual. This is not a divided but a concurrent allegiance. Similarly our duties to society, while they transcend our duty to ourselves, do not obliterate that duty. While the principle of personal liberty is subordinated to the supremacy of the general welfare, it may yet be maintained that the liberty of the individual is not thereby annulled. The two principles coëxist in perfect concord; the general principle is the *ergon*, the individual principle, the *parergon*; one the vocation, the other the avocation. The practical question is, What do we do with our leisure hours? for Apollo's bow is not always bent.

It is interesting to note some of the forms which this relaxation has taken among men of eminence. Cicero was a zealous antiquary, besides further occupying his leisure with poetry, horticulture and philosophy. Boccaccio and Petrarch were enthusiastic collectors of ancient manuscripts. There is no doubt that Francis Bacon considered his philosophic researches subordinate to his legal work, though in the latter he deserved and achieved infamy, and in the former he established a firm basis for the effective study of the physical sciences. While fulfilling the humble duties of a Bavarian priest, Mendel's recreation consisted in experimenting with plants until he discovered the law that governs the transmission of hereditary traits. Thirteen years after Sir Walter Scott was admitted to the bar, he published his first poem, "The Lay of the Last Minstrel," and thenceforth his avocation became his vocation, to the glory of literature and perhaps without much prejudice to the law. Virchow, the founder of cellular pathology, employed his leisure in making a decided impression on the politics of his country, since for forty-five years he was a member of the Prussian Landtag and for thirty years a member of the German Reichstag, where he

was one of the leaders of the Liberal Party. Dr. Dexter, in his excellent essay, might well have cited Virchow as an illustration of "The Doctor in Politics." O. W. Holmes always considered anatomy as his vocation and literature as his amusement. Christopher Wren was a physician who had many diversions. Astronomy was one and he became Professor of Astronomy at Oxford; architecture was another and he designed the Cathedral of St. Paul's; military engineering was a third and he designed the fortifications of Tangier in 1663.

Military engineering seems to have been the paragon of many professional men before it became itself a recognized specialty of military science. The fortifications which Michael Angelo designed in a vain attempt to keep the Emperor Charles V out of Florence, are still visible in part on San Miniato. Francis I of France employed that delightfully audacious egoist, Benvenuto Cellini, to fortify Paris, and afterward, on Benvenuto's return to Florence, he fortified that city against the men of Sienna. Cellini also says that he was assigned by the Pope to defend the castle of San Angelo against the Imperial forces. Vasari tells us that Andrea Pisano, the sculptor, also was engaged to fortify Florence, and Galeazzo, the architect, to fortify the harbor of Genoa. Perrault, the architect, who designed the eastern façade and the colonnade of the Louvre, was a physician, and his work is still considered the most perfect achievement of architecture in France.

These are a very few of the avocations by which men, busied in other professional work, have benefited humanity. I do not intend to make a list of these by-products,—of these periods of relaxation profitably employed in the general interest of the race. I am merely considering the enlarged scope that such collateral and subordinate pursuits give to the individual, opening up to him whole spheres of personal culture and neutralizing the tendency of specialism to contract his interests and narrow his life to the exact boundaries of his work; and it seems to me that the specialist may, without prejudice to his art, emulate the example of Prospero in laying down at times his conjuror's wand and taking off his magician's mantle, while he devotes a period of his time to his greater personal needs and looks abroad over the world with opened eyes.

And there is one aspect of the matter that is perhaps consid-

ered less frequently than it deserves to be, which follows on De Quincey's remark concerning "the generalizing principle that secures the unity of the science." A specialty is necessarily but a part of the whole, as the eye is a part of the body, and is of value, not for itself, but for its relation to the whole. Moreover, as each part of the body is not only related to the body as a whole, but also to every other part, so different branches of science are in the same way not only related to science, that is, to exact knowledge, as a whole, but also to all the other sciences. All departments of knowledge are thus seen to be inter-related in the same way that medical specialties are inter-related, and thus each specialty, when considered in its proper light, is seen to be clearly dependent upon all other specialties for their reciprocal illumination. So, it seems to me, if we accept the truth that the researches of the specialist are necessary to the development of science, we may not easily dispute the converse proposition that a knowledge of the whole is equally essential to the proper development of the specialty. Thus the various professions themselves mutually react upon and illustrate each other and man, by these relations, is brought into contact, if he will only see it, with all knowledge. Montaigne says that "there is so great relation among wise men that he who dines in France nourishes his companion in Egypt," and the Stoics were wont to say that "a wise man cannot so much as hold up his finger, in what part of the world soever he may be, but all men on the habitable earth feel themselves sustained and uplifted thereby." The figure may be a bit fanciful but the truth is not to be questioned.

It follows from this that, if a man knows nothing but his specialty, he cannot know even that. At least he cannot know it as it ought to be known, and it is possible that many specialists neglect to understand the relations of their specialty to other coördinate branches of knowledge and to appreciate its dependence upon them. In the same way, a commentator cannot know his Shakspeare unless at the same time he knows a thousand things besides—law, medicine, astrology, history, manners, dramatic literature, all poetry, the human heart, the conduct of life. Moreover, the high impulse of our natures toward that symmetrical perfection which, on its intellectual side, we call culture, and on its moral side, character, is not an impulse that can be safely stifled or thwarted.

EPIPHYSEAL FRACTURE OF THE UPPER END OF HUMERUS.

BY JOHN M. BERRY, M. D.,

Troy, N. Y.

The upper epiphysis of the humerus includes the head of the bone, the greater tuberosity, and the lesser tuberosity, and is developed from three centers of ossification. The center of ossification for the head appears about the second year, that for the greater tuberosity about the third year, and that for the lesser tuberosity about the fourth year. The upper epiphysis unites to the diaphysis of the humerus at from the twentieth to the twenty-fourth year.

Scudder states that epiphyseal fracture of the upper end of the humerus occurs in young people but never before the sixth year and never after the twentieth year: the most frequent period being between the ages of nine and seventeen years.

John Poland in his book on "Traumatic Separation of the Epiphysis" concludes that the upper epiphysis of the humerus is the epiphysis most frequently separated.

ETIOLOGY

Separation of the upper epiphysis of the humerus is usually caused by direct violence, such as a fall on the shoulder. It has also been reported as a birth injury caused by traction on the arm.

SYMPTOMS

In cases where there is only a slight displacement of fragments the subjective symptoms are not marked and there is comparatively little pain on active movements of the arm. The shoulder is swollen but retains its natural rounded appearance, and there is no shortening of the arm. On palpation there is localized tenderness at the point of fracture, and a ridge formed by the upper end of the lower fragment can sometimes be felt. A soft cartilaginous crepitus may be obtained on passive motion of the arm. The head of the humerus may move with the shaft in rotary motion but is not apt to when angular motion is attempted. Muscle spasm interferes with all passive movements, but abduction is especially limited.

When the characteristic displacement of fragments is present the subjective symptoms are much more marked. Active movements of the arm are possible but there is considerable pain. The shoulder is swollen, there is a prominence at the front below the situation of the humerus head and the skin may be wrinkled or puckered where it is drawn over the upper end of the lower fragment. Shortening of the arm is present. On palpation there is marked tenderness in the shoulder. The head of the humerus is in the glenoid cavity but the articular surface is downward and the upper fragment is rotated upward and inward by the muscles attached to it. (See fig. 1.)

The upper end of the lower fragment is displaced upward, forward, and inward, and its edge, smoother than in the case of fracture of the surgical neck, can be felt below the coracoid process.

DIAGNOSIS

The injury is of interest from a diagnostic standpoint since it may be confused with fracture of the anatomical neck or surgical neck of the humerus. It might also be mistaken for dislocation. The difficulty of diagnosis is sometimes increased by the fact that in certain cases there is but little deformity at first: the deformity coming on slowly in the course of a few days as the arm is used. It is safe to say that in the majority of cases a sure and correct diagnosis cannot be made without the use of the X-ray.

PROGNOSIS

The prognosis in these cases is favorable with proper treatment; but unless a correct diagnosis is made, and the fragments so held that the epiphysis unites in good position, there is apt to be considerable disturbance of growth in the arm. There is also liable to be much subsequent stiffness of the shoulder joint. Some of these cases wrongly diagnosed as sprain, or contusion, later develop almost complete ankylosis of the shoulder.

TREATMENT

It has long been recognized that this particular fracture is one of the most difficult to treat. In certain cases, where there is little or no displacement of fragments, all that is necessary is to have the patient carry the arm in a sling until union takes place: but in other cases where the fragments are separated and

To Illustrate Dr. Berry's Article on "Epiphyseal Fracture of Upper End of Humerus"

Albany Medical Annals, March, 1910



Fig. 3.

X-Ray Photograph of epiphyseal fracture of the upper end of the humerus, complicated by longitudinal fracture of the upper end of the humeral shaft.

the typical deformity is present, it is always a difficult matter to support the fragments in such a way that displacement will not recur.

Some surgeons advise operation in these cases, with wiring or nailing of fragments, and one text-book on fractures advocates

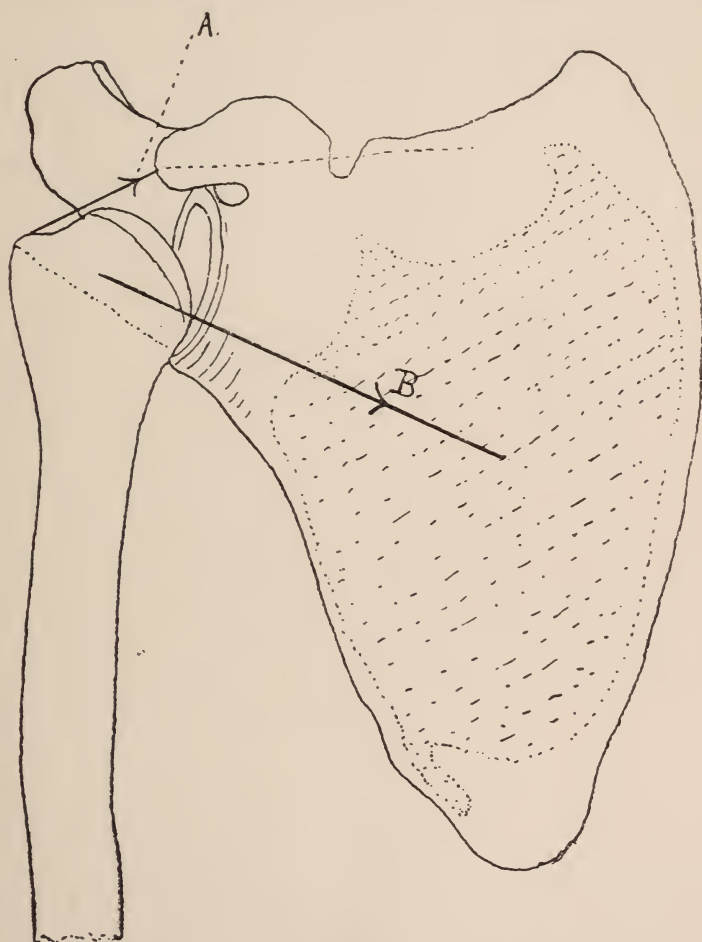


Fig. 1.

Outline drawing of right scapula and humerus seen from in front, showing the directions of the pull of the muscles causing the displacement of the upper fragment.

(A) The arrow indicated the direction of the upward pull of the supraspinatus muscle.

(B) The arrow indicates the direction of the inward pull of the sub-scapularis muscle. The actions of the supra spinatus and sub-scapularis muscles are opposed by the infra spinatus and teres minor muscles, but the action of the first two, being the stronger, determines the position of the upper fragment.

removal of the humeral head. Traction or vertical suspension is employed by some surgeons, but the common method of securing fixation is to place a pad in the axilla and bind the arm to the chest.

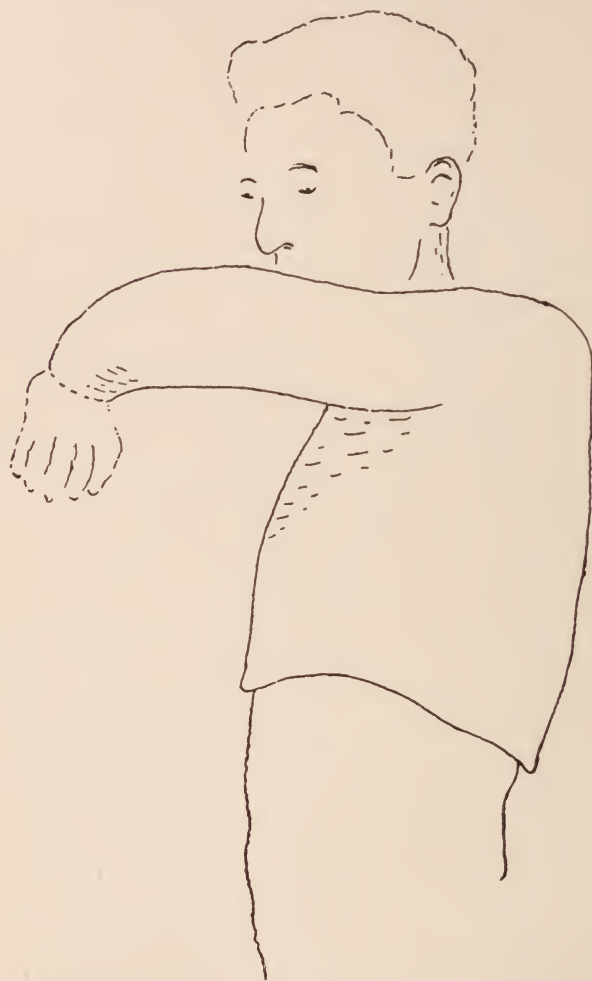


Fig. 2.

Outline drawing of Albee's position with plaster cast applied.

The usual cause of a poor result by any of these methods of treatment is the failure to keep the small upper fragment in position until union has occurred.

In the "Post Graduate" for June, 1908, Dr. Albee of New York, describes a method of fixation for these cases which

promises to give excellent results. A description of his method of fixation is as follows:

The upper fragment, through the agency of the supraspinatus and subscapularis muscles, tends to be rotated upward and inward, which movement, however, is checked by the impinging of the greater tuberosity against the acromion process, further elevation only being possible when the fragment is rotated outward. The position of the upper fragment being therefore fixed, it is allowed to remain in that situation and the lower fragment is brought into apposition with it. In other words, the arm is abducted, brought forward and rotated in and the arm, shoulder, and chest, enclosed in a plaster-of-Paris dressing. (See fig. 2.) The arm is flexed at the elbow for obvious reasons. This position is somewhat analogous to Whitman's abducted position for fracture of the neck of the femur.

Dr. Albee considers this the most rational position of fixation for all fractures occurring in the region of the anatomical neck, or upper part of the surgical neck, whether fresh or old, whether operated upon or not.

Following is the history of a case of separation of the upper epiphysis of the humerus treated by Albee's method.

The patient was a girl of fifteen referred to me by Dr. Archambault of Troy. The patient stated that three or four days before, she was "fooling" with a crowd of young people and was suddenly and violently jerked backward by the right arm, causing a severe pain in the right shoulder. Following the accident, the patient was able to use her arm somewhat, but it caused considerable pain in her shoulder.

On examination, the right shoulder was somewhat swollen but the natural rounded outline was present. A slight prominence could be seen below the situation of the humeral head, but there was no puckering of the skin or shortening of the arm. There was marked tenderness in the region of the greater trochanter, and the prominence was found to be due to the upper end of the lower fragment. On passive movement of the arm a soft crepitus was obtained, although the head of the bone seemed to rotate with the shaft. Movements in all directions were possible, but were limited by muscle spasm. An X-ray picture was obtained (fig. 3), and the case was seen to be one of separation of the upper epiphysis of the humerus, with partial displacement, complicated by longitudinal fracture of the upper end of the humeral shaft.

The patient was anaesthetised, the fragments brought into as good an apposition as possible in Albee's position, the arm, shoulder, and chest thoroughly padded with sheet wadding, and a plaster-of-Paris dressing applied.

The patient was kept in bed only long enough to recover from the effects of the ether, and the plaster dressing was kept on for a little over three weeks. During this time the patient was without discomfort of any kind. She did not find the position of the arm uncomfortable, and there was a total absence of the hot, oppressive feelings so frequently complained of in cases where the arm is bound to the chest.

At the end of three weeks the plaster dressing was removed, the arm was brought down to the side, and held by a light bandage for a couple of weeks more, light massage and passive motion being given every few days.

The result was excellent, and the girl has resumed her work in a collar factory.

THE TREATMENT OF TUBERCULOUS ADENITIS WITH THE X-RAYS.

Read before the American Röntgen Ray Society, Atlantic City, September 27, 1909.

BY ARTHUR F. HOLDING, M. D.,
Albany, N. Y.

Soon after the discovery that the X-rays had therapeutic powers they were applied to tuberculous processes. Their successful use in lupus vulgaris was soon established. As a therapeutic agent in tuberculosis of the bones and lungs the rays never gained favor; as a diagnostic method in these maladies the rays are undoubtedly among the most delicate and reliable methods in the diagnostician's hands to-day.

My attention was first called to the therapeutic value of the X-rays in tuberculous adenitis by the remark of a well-known radiologist to the effect that he was glad when he saw a patient suffering from this disease, because he felt so sure of curing it with the X-rays. This optimistic remark in regard to a disease, which (especially in its advanced stages) is one of the most unwelcome in a physician's or surgeon's consulting room, was refreshing. Not long afterwards I saw a case in which the sur-

geon had removed the glands from the left side of the neck three weeks previously. There now presented a recurrence and sinus on the left side as well as a large mass of newly enlarged glands on the right side. The patient had a bad family history, was a pronounced neurasthenic, and had become so weak that the surgeon did not dare advise a second operation. He adopted the more politic plan of reassuring the patient that it was "sympathetic inflammation," and privately advised the patient's husband to prepare for a funeral. On my request the case was "abandoned" to X-ray treatment. Three months' treatment entirely controlled the diseased process.

After an interval of two years during which time the surgeons were more or less active cutting out tuberculous glands, I saw another case on the hospital wards, which had been operated on three months previously. He was now suffering with recurrences on both sides of the neck, the pressure on the pharynx being so great that a tracheotomy was imminent. The prognosis was hopeless.

Again, at my earnest request, the patient was "abandoned" to X-ray treatment with the remark that "it can't make him any worse, anyway." The patient made an uninterrupted recovery and may be seen walking the streets of his native city, perfectly well. He has had no treatment for the past two years.

These two cases are the most extreme that I have treated. Many of a milder character have responded well and been successfully cured. When lesions are small it has been my practice to use the high frequency vacuum electrodes first, but usually, when the cases come to me they are too far advanced to be controlled by this method. If so, or if the high frequency treatments fail to control the condition, I resort to the X-rays. Under X-radiation if the glands have not begun to break down in the center they gradually diminish in size; if they have begun to break down in the center this process goes on more rapidly, the mass becomes rapidly larger, and they soon fluctuate. After evacuation of this broken down material the patients usually make continuous recoveries, gaining in weight and strength. The sinuses heal promptly, leaving a minimum of scar. In the event of there being diseased tonsils they should always be removed before the course of treatment can be considered complete.

The literature presents little in regard to the therapeutic value of the X-rays in tuberculous glands previous to 1903. Williams

mentions that enlarged cervical glands even when of great size respond remarkably well to the X-rays. Pusey reports five cases that showed improvement. In 1905 Bullitt reported results from 226 collected cases, of which 79 (35 per cent.) were cured; 92 (40 per cent.) improved; and 55 (25 per cent.) unimproved. In his paper he states: "As to whether or not tuberculous glands of the neck should be radically removed by excision has been something of a battleground for some years. The great majority of surgeons favor radical removal by clean dissection of tuberculous glands which progressively enlarge or evince a tendency to break down. In the great majority of these cases the glands involved are the cervical groups, superficial and deep, whose total extirpation involves a difficult and dangerous dissection among tissues of great importance. No matter how far such dissection may be carried, it is almost invariable that still further and deeper are other lymphatic glands which elude the most careful search and these in time become enlarged and have to be removed; sometimes three or four operations have to be undertaken. I have in mind one case that had nine operations! Persisting sinuses not infrequently follow these operations and especially is this apt to be the case when operation is undertaken in the face of broken down glands or abscesses.

"The possibility of disseminating the disease is not to be overlooked, as it is to be more feared perhaps in this than in other forms of tuberculosis." If reasonable assurance can be given of therapeutic benefit by using the X-rays no doubt surgeons will be as willing to refer such patients to the Röntgenologist as they have been to refer patients suffering from malignant diseases, either after operation, or without operation in the surgically hopeless cases. In the same year Hulst, Rice, and Grubbe reported cases treated with favorable results.

No adequate explanation of this therapeutic action was offered. Heineke and others had demonstrated the physiological effects of the X-rays on the lymphatic system, but this did not seem sufficient to account for the repeated and prompt improvements in the majority of the cases of tuberculous glands submitted to X-ray treatment. In 1907 Crane reported his observations on specific immunity and X-ray therapeutics. He cites cases of lupus, tuberculous glands, and acne (staphylococcal), in which the opsonic index had been taken during treatment. "In all these cases," he says, "the X-rays ceased to raise the index

when the infectious agent was presumably eliminated; and, furthermore, the index is raised only for the germs present in the lesion. That is to say, the X-rays do not seem to stimulate the production of opsonins for bacteria in general, but only for those in living tissues brought directly under their influence. The charts of opsonic indices during X-ray treatments and the charts during opsonic vaccinations are similar in all essential particulars. The time of reaction after therapeutic application; the succession of negative and positive phases; the interval required between treatments would seem to be too closely parallel to be accidental. The concomitant variations seem to prove a common cause; and the common cause seems to be the liberation, in the body fluids, of the immunising substance of the disease-producing agent." His conclusions are:

1. All effectual X-ray treatments require an intensity sufficient to set free what is equivalent to an autogenous vaccination.
2. This intensity should be regulated so as to induce a small negative phase or none at all.
3. The repetition of X-ray treatments should be governed by the duration of the positive and negative phases.
4. X-ray treatments have the advantages over external inoculations as follows:
 - a. The immunising substance set free is necessarily autogenous.
 - b. The difficulties and errors of a bacteriological examination are avoided.
 - c. In cases not caused by bacteria or diseases or in which the bacteria are not determined.
5. Some failures to benefit patients suffering with diseases usually amenable to X-radiations may be due to too vigorous treatment, thereby inducing too severe negative phases.

It has been the experience of Wright, Crocker, Stevens and others in the treatment of sycosis, lupus, acne, furunculosis, and similar conditions that it was frequently found to be beneficial to give the patient some local treatment with X-rays, Finsen rays, or curettage in conjunction with their vaccine injections.

The toxæmias that have long been known to follow the too vigorous radiations of patients being treated with the X-rays probably correspond to what has come to be known in these days of sero-therapy as a too severe "negative phase."

This series of facts offers the best explanation of the thera-

peutic action of the X-rays in tuberculous adenitis, but the alleged increase of the opsonic index must be confirmed by other observers before it can be accepted.

In conclusion, the facts presented justify the statement that the X-rays have claims to preferment in the treatment of tuberculous adenitis. Much had been said regarding the therapeutic value of the X-rays in epithelioma and in competent hands there has been such success in curing this disease that the X-rays are established as a recognized method of treatment. It would seem that these rays have just as pronounced an influence upon tuberculous adenitis, but that this value of the rays has not been appreciated by physicians in general.

BIBLIOGRAPHY.

- WILLIAMS. "The Röntgen Rays in Medicine," p. 674.
 PUSEY. "The Röntgen Rays in Therapeutics and Diagnosis."
 BULLITT. *Transactions American Röntgen Ray Society*, 1905.
 RICE. *Transactions American Röntgen Ray Society*, 1905.
 HEINEKE. *Muench Med. Wochenschrift*, 1903, No. XLVIII, p. 2090.
 HEINEKE. *Muench Med. Wochenschrift*, 1904, No. XVIII, p. 785.
 CRANE. *Transactions American Röntgen Ray Society*, 1907.

ELECTRICAL TREATMENTS.

*Read by invitation before the Medical Society of the County of Albany,
 November 10, 1909.*

By H. M. IMBODEN, M. D.,

The Sanitarium, Clifton Springs, N. Y.

The use of electricity as a therapeutic agent has increased very much within the past few years. This may be assigned to two causes: First, the free use of the force in the various arts and sciences and the results attained could not but cause the reflective physician to inquire how he could make it serve him as a therapeutic agent; second, no sooner was the discovery of the X-ray announced than it was seized by the medical men as their very own, and to them more than to any other class of scientists belongs the credit of developing it to its present high level.

The methods by which electricity are applied are numerous but they all depend upon certain fixed laws.

The human body has been described as a quantity of salt solution of different degrees of density divided in several compartments. This salt solution serves as the means by which the cur-

rent is conducted through the body, no matter what current is used it always depends for its activity upon the salt solution or electrolyte.

When the continuous current is employed the polar effects are in evidence, breaking up the electrolyte into its several parts thereby gaining their distinctive action. When the other currents are used, either on account of their low amperage or alternating character the polar effect is present to a less degree or is not at all in evidence.

The first form of current which we shall discuss is the galvanic or continuous current. This is an unidirectional current. It is the simplest, best understood and most useful form at our command. Therefore, it should be the commonest and most frequently used. I often fear we are seeking strange gods when I see the large space given in doctors' offices to noisy impressive apparatus and the insignificant place given and time allowed to the continuous current. It has been said that an equipment is not complete without the continuous current and that if an equipment consists only of the continuous current it is complete. This is true because, in connection with results which are entirely its own, almost all the physiological effects of the other currents may be obtained from this one. In the application of this current the polarity must always be considered because therein lies its power.

The physico-chemical effects of the positive pole are: attracting oxygen, acids and halogen group, and repelling hydrogen and the alkalies. The physico-chemical effects of the negative pole are: the attraction of the alkalies and hydrogen and the repelling of oxygen, acids and the halogen group.

The physiological effects of the positive pole are: First; upon the circulation, it causes a contraction of the blood vessels. This is brought about by the transfer of fluids from the anode region. In the cathode area the blood vessels are dilated caused by the accumulation of fluids. Secondly; upon the nervous system the positive pole is decidedly sedative, due to the fact that the hyperamia is relieved by contraction of the blood vessels, and the increased alkalinity of the part is reduced by the accumulation of oxygen and acids.

The negative pole is decidedly irritating or stimulating due to the increased blood supply and the increased alkalinity of the part. Under the positive pole alkalies are carried into the tis-

sues, while the halogens and acids are conducted into the tissues by the negative pole. When interrupted it is unexcelled in the stimulation of both varieties of muscle.

The continuous current is especially indicated in neuralgias, neuritis, rheumatic pains, gouty pains and effusions and in paralysis by improving the circulation; also for epilation and for the destruction of navi.

In exercising muscle in various paralysis, especially in infantile paralysis, the interrupted continuous current is unsurpassed. Finally the continuous current is always used in determining R. D.

Ionic Medication is one of the most interesting facts in therapeutics, with effects as pleasing as any as can be desired. The effect rests upon the fact that when a continuous current is *passed through* a solution the salt or electrolyte is broken up into its ions. These are then carried into the body at the point of contact of the anode and cathode. If the continuous current is passed through a solution of K I the I will be attracted to the positive pole. Therefore, to introduce this ion into the body place the solution upon the negative pole and the I will penetrate into the tissues seeking the positive pole. One of the most constant actions of this form of treatment is the resolving and softening influence on scar tissue and cicatricial formations by the K stream of a solution of Na Cl.

Joints rapidly recover their motility without painful forced movements. The results from this method are not a matter of chance but are sure and regular. The stiffness following a Colles' fracture I have seen disappear on several occasions.

For chronic rheumatic joints, iodine is used. The finger joints of a writing teacher were much impaired by well marked Heberden's nodes. After several weeks treatment she said the fingers were in better condition than she had hoped for. In joints which are protected as the hip, spine or shoulder, the effects do not approach those in which the joints are more accessible as the hands, feet and elbow.

In neuritis, neuralgia and pains of rheumatic origin, the salicylic ion is employed usually with success. However, I am positive that a case of Tic was made decidedly worse by its use.

Multiple warts have disappeared after four treatments by magnesia ions. The hands of a boy were fairly well covered with warts. A surgeon had removed one leaving a scar; the magnesia ions removed the entire crop without pain, and without a scar.

Hemorrhoids have been cured and a prolapsed rectum made to remain in position by the application of the copper ions.

FARADIC

The so-called Faradic current is an alternating induced current of relatively low amperage. It is found more universally in doctors' offices than any other therapeutic device. The therapeutic value of the induced current is not very dependent upon its chemical polar properties, because these are very slight, but it does depend largely upon mechanical means. One of its great values is to assist in determining reactions of degeneration, and to exercise muscle in cases of paralysis. If there is contraction in a hemiplegia we should avoid all electrical stimulation especially faradization. If on the contrary the paralyzed muscles are especially lax and feel flabby with no symptoms of contracture, faradization by local application to the muscles should be carried out. In the peripheral paralysis the atrophied muscles should always be exercised by the induced current. There are some neuralgias which are relieved by it. If a neuralgia is relieved by pressure, the induced current will be very helpful. In fact it is the only form of electricity which will relieve such cases. Some cases of chronic myalgia, especially if one muscle only is involved, may sometimes be relieved by the induced current. As a general tonic to the muscular system in neurasthenia, chronic diseases and after an acute illness the slowly interrupted induced current applied in a bath tub serves to good effect.

SINUSOIDAL

The current from a sinusoidal machine is an alternating one whose electromotive force regularly rises and falls in two equal and opposite cycles. Either the continuous or induced currents may be utilized. The equal and opposite cycles of this current cause interruptions which are smooth and painless in comparison to the contractions of the ordinary interrupted continuous or interrupted induced currents. It resembles the continuous current in strongly contracting smooth muscle. *Therefore it is indicated* in simple gastric atony, in constipation due to a relaxed condition of the muscles of the gut, and other conditions in which it is desirable to stimulate unstriated muscle. It also contracts striped muscle, and is indicated wherever a smooth, regular and

comparatively painless exercising of muscle is desired. Morris says, " These currents are especially indicated in spastic paralysis whether hemiplegic or paraplegic, in peripheral neuritis and muscular atrophies. In spastic cases from whatever origin, the current appears to diminish the rigidity so that the fingers and wrist or the ankle can be moved more easily, and the patients feel better and stronger."

HIGH FREQUENCY

Within the past few years H. F. currents have come into very general use, especially so since the manufacturers have made a portable instrument which can be used for H. F. treatments. This current is an alternating one of highpotential whose alternations are more frequent than that of any other form. For which reason it receives the name of High Frequency. Its therapeutic uses are very extensive. We shall consider only the auto-condensation and vacuum electrode methods of administration. When auto-condensation is administered the patient is seated in an insulated chair, the cushion of which covers a large piece of metal connected to one end of a D'Arsonval coil, and the patient is directly connected to the other end. In this position he is exposed to enormous differences of potential. There is no neuro muscular response. This fact has caused many persons to think that no current was being received. When we remember that sensory nerves respond to vibrations up to 10,000 per second only and that these currents alternate at the rate of 1,000,000 or more per second, we can easily see why there is no electrical sensation. The patient does experience a sense of restfulness, a gentle warmth extends gradually over the entire body, which may be followed by a slight perspiration, drowsiness or even sleep, caused probably by a flushing of the capillaries of the skin. By this treatment gouty and rheumatic patients are decidedly benefited; the pain is usually ameliorated, some patients going for hours without its returning. I have used it very extensively in all varieties of high blood pressure cases, some sixty cases in all. These included cases of well advanced arterio sclerosis, kidney cases and simple hyper-tension. As a rule, the arterio sclerosis cases were held in check, some were relieved of the head pressure symptoms and some were not benefited in the least. I now never try to reduce blood pressure in cases of well advanced nephri-

tis as I believe that is a physiological process to assist the kidneys in doing their work. In cases of simple hyper-tension, auto-condensation is *the* treatment combined with incandescent baths. One case having a blood pressure of 170 upon admission was reduced to 130 in one treatment and so it has remained. When tubes are used the rate of frequency plays an important part. If a tube be connected directly to the negative side of a machine, the rate of vibration is slow; thereby inducing muscular contraction, expressing stagnant blood, relieving local congestion. In such conditions, therefore, without infection these low frequencies are preferable. The more rapid frequencies derived from a resonator or Tesla coil are indicated in the local infections; especially in slow healing ulcers and boils in the early stages. In skin diseases my results have not been as good as those reported by others. Though one case of acne rosacea was cured by the combined use of H. F. and X-ray. Acute coryza and nasopharyngitis are much benefited; chronic bronchitis and asthma are usually improved when combined with the local application of the incandescent light. It seem to liquefy the tenacious mucous and stimulate its freer expectoration. In sciatica and in some of the other arm and leg pains, I have seen very few good results. As a rule, neuralgias are not much benefited by it.

PHOTOTHERAPY

Light was recognized as a therapeutic agent for many years. But it was placed upon a scientific basis by the work of Finsen, who used the arc light. Later incandescent cabinets and high candle power incandescent lamps were studied and used. If we remember the differences between arc and incandescent rays we will never have difficulty in selecting the correct one to use. The sun's rays are divided into the heat, light and actinic rays. The incandescent light gives off all of these being especially rich in heat and light rays, and very poor in actinic. The arc, on the other hand, is rich in actinic rays, giving off very few heat and light rays in comparison to the incandescent light. The heat and light rays penetrate the tissues more deeply than do the actinic which are absorbed by the more superficial layers of the skin and cause sun burn. That the arc light is much richer in actinic rays than the incandescent is shown by the fact that no matter how often a part is exposed to the incandescent the part never becomes sun burned. But a few applications of the arc produce

a decided sun burn. The arc light on account of the irritation of the skin by the actinic rays is used in alopecia areata, lupus, epithelioma, and navi; also in the treatment of disease when internal organs are to be depleted as in cases of organic heart disease or cases of difficult breathing from whatever causes. The light and heat rays do penetrate deeply into the tissues. In their passage through the tissues they are absorbed especially by the muscles and blood, causing one of two changes; either the rays cause chemical changes in the hemoglobin, "oxidizing it," or the waves of light are slowed gradually till they are converted into heat rays. Light, therefore, produces the following physiological effects:

1. It is an irritant to the skin.
2. Direct effect upon the blood.
3. Causes a depletion of internal organs by the blood rushing to the surface.
4. It modifies metabolism.
5. Induces perspiration.

Perspiration is induced in two ways;

1. By the contact of heat with the body.
2. By the rays penetrating the tissues and directly stimulating the sweat glands.

Incandescent lights are used either in cabinets for general application, or individually for local use. All we know about the incandescent bath points to its use in all cases where copious perspiration is desired, with the least possible strain on the heart. It is used accordingly in cases of faulty metabolism, rheumatic affections, nerve complaints, chronic metallic poisoning, and syphilis, in chronic exudations and effusions, dropsy and ascites after nephritis, in hypertrophic and fatty hearts, eye complications and as a tonic and prophylactic against disease. It is not indicated in cases of weakness, arterio-sclerosis, organic heart with congestive symptoms and phthisis.

The high candle power light is indicated in precisely the same conditions as is the cabinet. It can be more universally used since it taxes the heart to a less degree. Good results may be obtained if systematically carried out, in relieving painful affections of the joints and muscles, and in quickening the resorption of serous exudations and effusions in the joint. Rheumatic pains are immediately relieved, but the effect is not lasting as the pains return in a few hours; a cure can only be effected by

prolonged treatment combined with suitable mechanical and medicinal treatment. Neuralgia and the pain in neuritis act in a similar way. Superficial infections as in acne pustulosa, or abscesses are very much benefited, doubtless by the hyperaemia caused. Bronchitis and asthma are usually very much benefited, especially if followed by H. F.

Blue light seems more anaesthetic than the full spectrum. I have seen some of the most painful neuralgias gain more from it than from any other measure tried.

Electro-therapy must not be regarded as a cure-all, nor as a placebo, but if used in connection with other therapeutic measures it will be found to be a very useful servant.

RADIOTHERAPY.

*Read by invitation before the Medical Society of the County of Albany,
November 10, 1909.*

By H. W. VAN ALLEN, M. D.,

Springfield, Mass.

The arrest of disease and alleviation of distress are objects sought after since the time of primitive fallen Adam. Poe says:

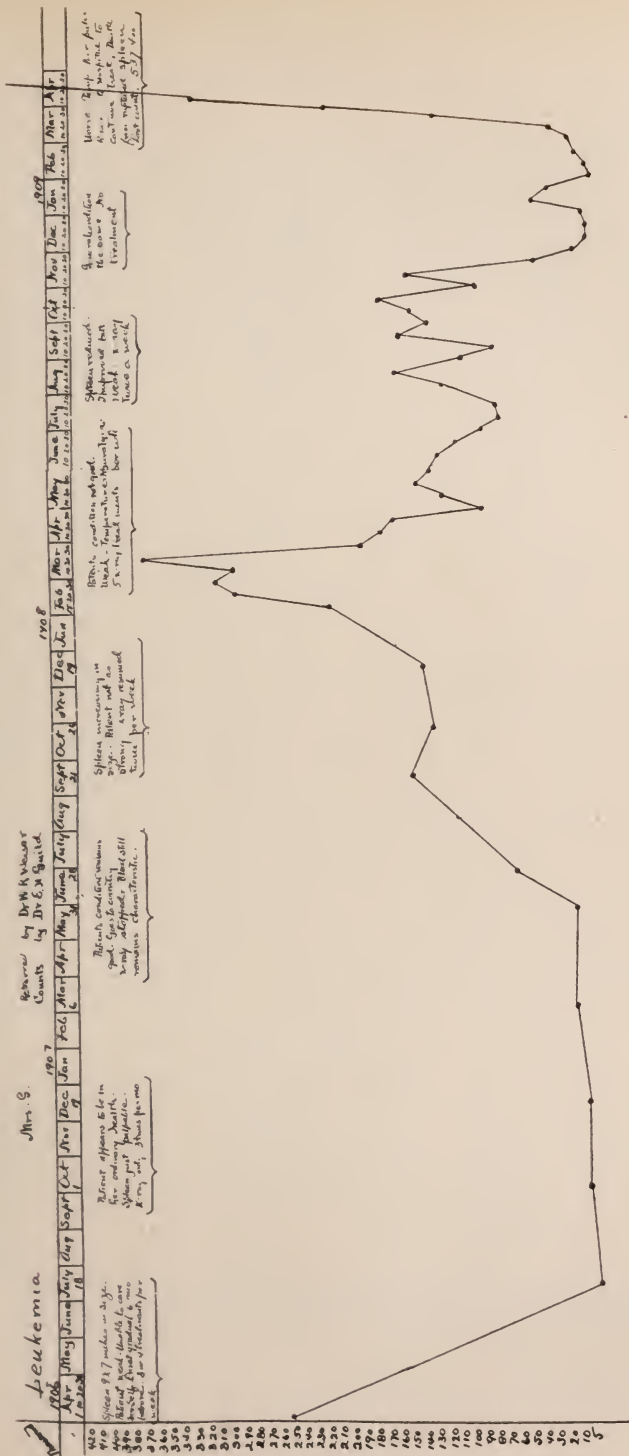
"A wise physician, skill'd our wounds to heal,
Is more than armies to the public weal."

The human mind has sought a cure in every conceivable mental and tangible substance. Many times the more weird and mysterious, the more thoroughly tried and slower given up. In this mysterious class comes the X-ray. It has been exploited for almost every human ill. Reports of cures are given at length, which to one with a scientific understanding of the subject, must without question be assigned to the beneficence of Mother Nature,—a case of Post Hoc and not Propter Hoc. The X-ray machine is part of the armament of every full-fledged quack, because if the patient can see the bones of his own hand, surely the doctor can see and locate so tangible a thing as his pain. It is to help separate the chaff from the wheat, the false from the real, that I am here to-night.

Stimulated by these potent facts, I will endeavor to discuss with you, *first*, the variation in technique and apparatus; *second*, the action of the Roentgen ray on tissues, both normal and pathological; *third*, the application of these principles to the cure of disease; *fourth*, the specific disease to which it may, in my experience be applied; and *fifth*, by means of the lantern, introduce to you a few concrete examples of patients who have had treatment.

What is the action of the Roentgen ray upon the living tissues? Without exception an irritant, and carried farther, a destructant. It is similar to other destructive agents in many respects, but in one particular stands alone in that its action can be made as great beneath the surface of the skin as upon it. No other destructive agent, as acid, heat, etc., does this, as the effect is rapidly modified by the tissues in contact with the destructive agent. The law of effectiveness is inversely as the square of the distance, except for the intervention of some dense body as bone or metal. A moment's thought will show one that a tube placed close to the skin will have only a local effect, as by squaring the distance, tissues only a little beneath the surface are much less affected. On the other hand to affect deep tissues, the tube is placed at some distance, and to some depth the energy expended is nearly the same.

But this is only one of many details, a thorough knowledge of which is necessary to successfully use the Roentgen ray in therapy. Tubes of different vacua act differently; the length of exposure; the frequency of exposure; the kind of exciting apparatus; as well as the make of the tube, all modify the case. To successfully treat any given case the operator must know all these and others and bring them in harmony, or no satisfaction will result. As yet one great thing we lack—that is, some measure of radio-therapeutic action of the tube. Many have been devised, none are satisfactory. And the dose must be governed by the operator's instinct. This power is only born of long experience and is an unanswerable argument against the general practitioner using the cheap little office equipments on the market. I see constantly cases in which, for example, superficial epithelioma have been so treated. The man with no experience and no measure to check up his work has used enough radio-activity to simply irritate and not destroy the growth and the result is an increase of the disease, and this new medical X-ray



man rushes into print to condemn all such treatment, because he failed.

Various types of machines are used to excite the X-ray tube and all have their good points. Personally for treatment work, except on very deep tissues, I prefer a static machine; but other types of exciters may be as good or better in other men's hands, especially if they have become accustomed to the dosage produced by them. I take it, however, that to discuss this phase of the subject would be unprofitable before an audience of men not specialists in this form of treatment.

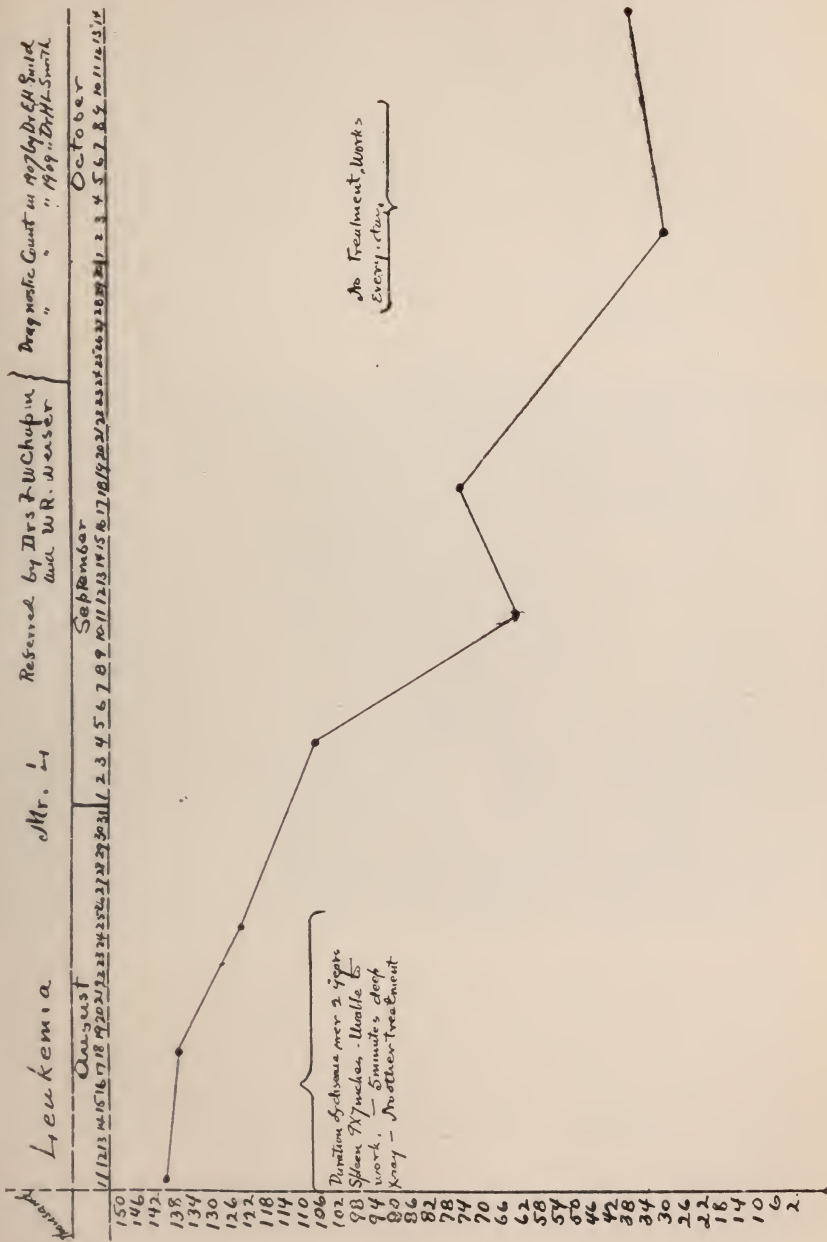
To return to the specific action of the Roentgen rays on tissues. When applied in moderate quantities, nature at once treats the portion to which the irrigation is applied as she always does in such cases. Increases the blood supply especially the white cells, deposits pigment, and produces a local change in metabolism and nutrition with no destructive changes. Longer application causes erythema and an increase in the underlying connective tissue. Still longer application causes a fatty degeneration in the smaller blood vessels, especially in the inner coat which materially interferes with the nutrition of the cells supplied by them, and carried a little farther, death of the most susceptible cells, and still farther, destruction of all cells or an actual X-ray burn.

The definite knowledge and control of these stages in action is the key to successful treatment of disease by the Roentgen ray, for it is evident that in certain diseases, as psoriasis, all we require is ray enough to change the metabolism; in ringworm only enough to destroy the growing hair temporarily; while in epithelioma there must be destruction of the embryonic cells of the new growth, but still not enough to destroy the surrounding healthy tissue, and a cure results without a burn.

As a man is able to control these various applications he will succeed or not; but it is difficult and only comes by experience, as there are so many varying qualities, not only in the exciting apparatus, the tube and susceptibility of the patient, but I also believe in the condition of even the intervening air, the operator must be on the alert constantly.

We will now pass on to the next definite head in my paper—the application to particular diseases of these principles.

Freund of Vienna, in 1896, was the first to apply the Roentgen ray therapeutically. This was for the removal of hair, and the deductions he then made hold good, as in ringworm of the scalp



no other method can compare with the Roentgen. Application is made to the various portions of the scalp and in about two weeks the hair falls completely, making the eradication of the parasite extremely easy, and permanent cures result. I think no more amusing sight came to my notice when visiting the European hospitals last year than in the large St. Louis Hospital in Paris, to see nearly 150 children in a yard, all having been made bald by this method. You recall that ringworm of the scalp is very common over there.

Barbers itch needs only to be mentioned to see that the same treatment applies.

Psoriasis is one of the diseases which has in my hands been successfully treated. In neither this nor the foregoing should the parts be radiated enough to produce dermatitis. I believe some influence is made in the skin nutrition, as distant parts are cured as well as those directly under the ray. Cases of forty years standing have yielded to what seems a permanent cure. As to relapses, they occur with fair frequency, perhaps one-half. To this end I always recommend after treatment of arsenic and if needed a second series of treatments, when again cure occurs, with still more permanent results. I have old cases which have remained well from five to seven years.

Eczema is treated with doubtful success, except in acute form with considerable discharge after the acute stage is over. It has taken me some years to arrive at this conclusion, but I believe it is correct.

Acne vulgaris, especially of adolescence, is one of the most pleasing diseases to treat with the X-ray, as the patients, especially the young women, will be so grateful. It takes away the peculiar oily appearance of the general skin and by removing the excessive activity of the skin of this period of life, cures the disease. Every effort should be made to find the cause and remove it if possible, as even then about one-third of these cases have slight relapses, when another series of treatment may be needed. This time the number is much less and results seem permanent.

Pruritis ani and vulvae yield to a slight dermatitis, but the cases are rare in which it should be applied, as sterility is apt to result.

Let us now turn to a different class of cases in which we wish

To Illustrate Dr. Van Allen's Article on "Radiotherapy".

Albany Medical Annals, March, 1910.



to affect the deeper tissues, still, however, without destruction of tissue.

In point of number, cases presenting tubercular cervical adenitis comes first and an evening spent with just these cases would not be amiss. In the majority of cases where there has been no destruction of tissue, a recovery can be produced, leaving only a very small, hard nodule, or nothing at all. The size, when not all removed, decreases for months afterwards. In other cases where the gland is about to break down, it seems to do so more quickly and the case is surgically evacuated, while the remaining glands which must also be infected, subside. I realize I could open a large field of discussion here as to whether or not this method or the surgical removal of the entire chain of glands is better. I submit, however, that if Nature had good reason to place these protecting glands there, if they can be returned to function, it is to be desired, and this can be done in no other way. All the above is said with no reference to the cosmetic effect, which is not to be overlooked.

I have used X-ray on a number of cases of goitre but as surgery has made such recent advances, I believe it should have precedence unless there is some other reason to prevent operation. X-ray will almost uniformly reduce the tachycardia and other symptoms, but the size of the gland remains the same in many cases. However, most of them slowly decrease in size. This decrease seems to be from the contraction of the increased connective tissue.

Leukemia and Hodgkin's disease come under this head. I know of no more satisfactory cases to treat than the former; as far as temporary results are concerned. It is not curative but the length of time life can be prolonged is only governed by the tolerance of the skin. The additional prolongation is into years. I have some charts to show concerning this.

Post-operative X-ray treatment for malignant growths of the breast and other deeper structures has become a recognized necessity. Records of breast cases alone show that while fifty-two per cent. of all cases not treated post-operatively return within two years only twenty-five per cent. of those radiated for a number of times immediately after the operation return. These figures put the necessity beyond a question and there are few surgeons now who fail to recommend a procedure that cannot do harm and the facts point so conclusively toward its benefit.

Another condition to which this degree of radiation is applied is the treatment of internal cases of cancer, say of the stomach, liver, etc., which are beyond hope of cure by any means. It lengthens life, relieves pain and keeps the growth from the surface, thereby removing much of the horror of this disease.

In all these cases the technique is absolutely different from the next class. For example, in the above cases a screen of leather is interposed between the patient and the tube, to filter out the skin-burning rays. Also we use a hard tube. While in the next class of cases in which we wish to actually destroy tissue, a soft tube is used close to the tissue and no filter. In this class comes the condition most often placed under X-ray treatment, namely, epithelioma. When properly applied it is the remedy par excellence for this class of cases, as it has a selective action upon the cells of the new growth, so that the result in the death of the cancer-cell in the tissues, without destruction of the adjacent surrounding normal tissue. As a result we have the smallest possible amount of scar, with less likelihood of a return than by any other method. Minor factors come in the fact that it is painless and in no way keeps one from his occupation. The result in these cases, in my personal experience, are excellent. In a report of one hundred cases to the Academy of Medicine in Springfield, not long ago, a percentage of cures of eighty-five per cent. was made. These cases were selected from about twice that number, because of the certainty of the diagnosis. No case was considered unless it had been away from treatment for a year.

While there are several other diseases in which a cure can be obtained by actual destruction with the X-ray, I will only mention lupus vulgaris. While not as good as Finsen light, it is excellent and will cure. It must be used in good strength. Cases of this kind, when over large areas, have a tendency to relapse after several years.

In closing I have to call your attention to some lantern slides illustrating specific cases of some of the above-mentioned diseases.

Editorial

"It is recorded of Methusalem, who, being the longest liver, may be supposed to have best preserved his health, that he slept always in the open air; for, when he had lived 500 years, an angel said to him, 'Arise, Methusalem, and build thee an house, for thou shalt live yet 500 years longer.' But Methusalem answered and said, 'If I am to live but 500 years longer, it is not worth while to build me an house—I will sleep in the air as I have been used to do.' Physicians, after having for ages contended that the sick should not be indulged with fresh air, have at length discovered, that it may do them good. It is therefore to be hoped, they may, in time, discover likewise, that it is not hurtful to those who are in health; and that we may then be cured of the *aerophobia* that at present distresses weak minds, and makes them chuse to be stifled and poisoned, rather than leave open the window of a bedchamber, or put down the glass of a coach."

From the *Columbian Magazine* for September 1786. Philadelphia:
Printed for T. Seddon, W. Spotswood, C. Cist & J. Trenchard. "The Art of procuring pleasant Dreams. Inscribed to Miss *** Being written at her Request." By Benjamin Franklin.



Of all the great altruistic movements of the present period none is spreading more widely or enlisting the co-operation of more governments and individuals than the great crusade symbolized by the double red cross. Inaugurated by the medical profession for the purpose of lessening the ravages of pulmonary tuberculosis, its success will mean not only the practical elimination of that disease as a cause of death or disability but will bring better conditions of life for rich and poor that should diminish the prevalence of all infections.

One of the earlier evidences of more general interest in the anti-tuberculosis movement in America was the founding of the Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis by one of our multi-millionaires in 1903. Located in the poorer quarter of Philadelphia with the disease rampant all about it, unusual opportunities at once presented themselves for the accomplishment of its purposes. Each year an

The Henry
Phipps
Institute

increasing number of cases has been thoroughly studied in its dispensary and hospital. The proviso that patients admitted to the hospital should permit an autopsy in case of death has rendered available a large amount of pathological material which has been carefully and minutely examined. The voluminous report published annually summarizes not only the clinical, pathological and social studies for the current year, but also the entire scientific work of the institute since its foundation. As the number of cases examined now runs up into the thousands the conclusions drawn become each year more and more valuable.

Under the able direction of Dr. Lawrence Flick a high standard of scientific accuracy has been maintained and among the workers in the institute have been some of our best-known pathologists and clinicians. The recent arrangement by which the institute is to become an integral part of the University of Pennsylvania insures the continuance of the work under the best of auspices.

The present report¹ includes much of general interest to the medical profession. Dr. Flick's Clinical and Sociological Report for the year covers eighty-four pages and has been reviewed at length in a recent number of the *Journal of the American Medical Association*.² One especially noteworthy point is his demonstration of the fact that many emigrants free from the disease on their arrival here soon acquire it from living in infected houses in the slums.

Cadbury's eighty-page study of the bone marrow in cases dying of tuberculosis is based upon the findings in fifty-seven autopsies and includes a review of literature. Sixty-three per cent. of the cases gave evidence of the presence of tubercle bacilli in the bone marrow. Cellular proliferation was the pathological condition most often present.

McFarland and Beardsley add to the discomfiture of Rosenberger by opposing to his suggestion that tubercle bacilli can be found in the feces in all forms of tuberculosis, a series of experiments on guinea-pigs and rabbits leading them to conclude that the feces of animals, even with extensive tuberculous lesions embracing the lungs, liver, and spleen, do not at any time contain tubercle bacilli. Their presence in human feces as a result of swallowing sputum or derived from intestinal ulcers is not denied.

Montgomery draws many conclusions regarding the signifi-

¹ *Fifth Annual Report of the Henry Phipps Institute*, February 1, 1907, to February 1, 1908. Philadelphia, 1909.

² *Journal of the American Medical Association*, 1910, liv, 538.

cance of percussion tenderness in pulmonary tuberculosis from the clinical study of one hundred cases. No confirmatory autopsy findings are recorded and it is questionable whether all the conclusions are justified considering the limited number of instances on which some of them are based.

Blackwood, using the opsonic index in a series of cases, confirms the now generally accepted view that its estimation requires too tedious and delicate a technic for it to be of great practical use in the clinic and that it cannot be depended upon as a guide to the dosage of tuberculin for dispensary patients.

The laryngological studies become of increasing value each year as the number of cases summarized becomes greater. In the neurological studies by McCarthy and Carncross particular attention has been paid to minute changes in the brain. The mental attitude of thirty-eight out of fifty-nine cases was recorded as hopeful. A clinical study of mental conditions in the entire series of cases from the founding of the institute is being prepared for summary in a later report.

Landis, in a study of fibrosis of the lungs, states that the continued absence of tubercle bacilli from the sputum does not prove the non-tuberculous nature of the condition in any given case. Autopsies have the tuberculous origin of the process even when no bacilli could be found in repeated examinations.

Stanton's report on sixty-one cases of pneumothorax constitutes a valuable contribution to our knowledge of the symptoms, physical signs and course of this complication.

Walsh compares the pathological findings with the recorded physical signs in a series of eleven cases giving special attention to the diagnosis of cavity formation.

Other interesting papers are Ullom's on the Thoracic Duct in Chronic Pulmonary Tuberculosis and McCarthy's report on a case of Prenatal Poliomyelitis. These, with the pathological and bacteriological reports for the year, including summaries of the findings for five years, complete the volume, with the exception of the report of the nurses' training school and the indices. Such a mine of reliable information of value to every practicing physician should justify the outlay of one dollar, the modest and nominal price at which it may be obtained.

ARTHUR T. LAIRD.

The Detection of Reducing Sugars In the *Journal of Biological Chemistry* (1909, Vol. v, p. 485), S. R. Benedict has shown that the hydroxides of the alkali metals have a greater destructive action upon dextrose and various other carbohydrates than have the carbonates, and in accordance with this fact, a copper-containing solution in which the alkalinity is secured by sodium carbonate makes a more delicate and specific test for the detection of dextrose than does a copper solution which contains sodium hydroxide. Rochelle salt is the constituent of the ordinary alkaline copper solutions which undergoes change upon standing, and forms products which cause a spontaneous reduction of the solution. Substances in great number have been proposed as substitutes for the Rochelle salt in Fehling's solution. Citric acid (in the form of its salts) should, from the theoretical point of view, be capable of holding cupric hydroxide in solution in an alkaline medium. Upon practical test this has been found to be a most satisfactory substance.

BENEDICT'S SOLUTION:

Copper sulphate (pure crystallized).....	17.3 grams
Sodium citrate.....	173.0 grams
Sodium carbonate (anhydrous).....	100.0 grams
Distilled water.....to	1,000.0 c. c.

This reagent is more sensitive to dextrose either in pure solution or in urine than is Fehling's fluid, is not reduced by uric acid (or appreciably by chloroform, chloral, or formaldehyde), and apparently suffers no deterioration on standing.

The following is the procedure for the detection of dextrose in the urine: To about 5 c. c. of the reagent in a test tube are added eight (not more) drops of the urine to be examined. The fluid is then heated to boiling, kept at this temperature from one to two minutes, and allowed to cool *spontaneously*. In the presence of dextrose the *entire body of the solution will be filled with a precipitate*, which may be red, yellow, or green. If the amount of dextrose is small, the precipitate forms only on cooling. If no dextrose is present the solution either remains absolutely clear, or a very faint turbidity, due to the precipitated urates, may be apparent. Even small quantities of dextrose in urine (0.1 per cent) yield precipitates of surprising bulk with this reagent, and the positive reaction con-

sists in the filling of the entire body of the solution with a precipitate so that it becomes opaque. The reagent is not dark colored, like the hydroxide-containing solutions, and even the slightest precipitates may readily be observed without waiting for them to settle.

Personal experience with Benedict's solution during the last two years shows several advantages which will establish its superior availability over the time-honored Fehling's test. It is a single solution, which does not deteriorate, is much more delicate than Fehling's, and is more specific for the detection of dextrose.

VICTOR C. MYERS.

Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF HEALTH—ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, JANUARY, 1910.

Deaths.

Consumption	18
Typhoid fever	0
Scarlet fever	0
Measles	6
Whooping-cough	0
Diphtheria and croup	2
Grippe	1
Diarrheal diseases	7
Pneumonia	10
Broncho-pneumonia	2
Bright's disease	26
Apoplexy	8
Cancer	13
Accidents and violence	8
Deaths over 70 years	30
Deaths under 1 year	23
<hr/>	
Total deaths	170
Death rate	20.00
Death rate less non-residents	18.12

Deaths in Institutions.

	Resident	Non-Resident
Albany Hospital	13	4
County House	6	2
Homeopathic Hospital	8	1
Little Sisters of the Poor	2	0
Public places	1	0
St. Frances De Sayles Orphan Asylum	2	1
St. Margaret's House	3	0
St. Peter's Hospital	6	8
St. Vincent's Male Orphan Asylum	1	0
	42	16
Births	120	
Still births	12	
Premature births	1	

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

In the Bureau of Plumbing, Drainage and Ventilation there were two hundred eight inspections made of which sixty were of old houses and one hundred forty-eight of new houses. There were forty-nine iron drains laid, twelve connections to street sewers, twelve tile drains, thirty-six cesspools, two urinals, sixty wash basins, sixty-nine sinks, fifty-six bath tubs, fifty-six washtrays, two butler's sinks, three trap hoppers, and seventy-eight tank closets. There were thirty-five permits issued of which twenty-nine were for plumbing and six for building purposes. Eighteen plans were submitted of which five were of old buildings and thirteen of new buildings. There were twenty-four water tests. Twenty-two houses were examined on complaint and seventy-three were re-examined. Five complaints were found to be valid and seventeen without cause.

BUREAU OF CONTAGIOUS DISEASE.

Cases Reported

Typhoid fever	10
Scarlet fever	34
Diphtheria and croup	16
Chickenpox	11
Measles	190
Whooping-cough	5
Consumption	41
Totals	307

Contagious Disease in Relation to Public Schools.

	Reported		Deaths	
	D.	S. F.	D.	S. F.
Public School No. 5 . . . . .	..	1	..	..
Public School No. 6	1	..	..	..
Public School No. 8 . . . . .	..	3	..	..

Public School No. 13.....	..	1	..	..
Public School No. 21.....	..	1	..	..
Public School No. 22.....	1	1	..	..
Miss Quinn's School.....	..	1	..	..
St. Joseph's Academy.....	2	2	..	..
Cathedral School.....	..	1	..	..

Number of days quarantine for diphtheria:

Longest..... 20 Shortest..... 9 Average..... 15

Number of days quarantine for scarlet fever:

Longest..... 67 Shortest..... 14 Average..... 26 1/20

Fumigations:

Houses..... 40 Rooms..... 138

Cases of diphtheria reported 16

Cases of diphtheria in which antitoxin was used..... 16

Cases of diphtheria in which antitoxin was not used..... 0

Deaths after use of antitoxin..... 2

BENDER REPORT ON TUBERCULOSIS.

Positive 13

Negative 24

Failed 0

Total 37

TUBERCULOSIS.

Living cases on record January, 1910..... 427

Reported during January, 1910:

By telephone 1

By Bender 6

By card 22

29

Dead cases reported by certificate..... 13

42

469

Dead cases previously reported..... 6

Dead cases not previously reported..... 13

Duplicates 6

25

Living cases on record February 1, 1910..... 444

Total tuberculosis death certificates filed January, 1910..... 19

BUREAU OF PATHOLOGY.

Bender Laboratory Report on Diphtheria.

Initial positive	11
Initial negative	55
Release positive	2
Release negative	33
Failed	6
<hr/>	
Total	107
Test of Sputum for tuberculosis:	
Initial positive	15
Initial negative	31

BUREAU OF MARKETS.

Market reinspections	63
Public market inspections.	8
Fish market inspections.	7
Fish peddlers inspected.	1
Rendering establishment inspections.	24

MISCELLANEOUS.

Mercantile certificates issued to children.	29
Factory certificates issued to children.	19
Children's birth records on file.	48
Number of complaints of nuisances.	22
Privy vaults	0
Plumbing	13
Other miscellaneous complaints.	9
Total number of dead animals removed.	707
Cases assigned to health physicians.	106
Number of calls made.	385

Medical News

Edited by Arthur J. Bedell, M. D.

ALBANY GUILD FOR THE CARE OF THE SICK—DEPARTMENT OF VISITING NURSING—STATISTICS FOR JANUARY, 1910. Number of new cases, 183; *classified as follows*: Dispensary patients receiving home care, 31; district cases reported by other physicians, 8; charity cases reported by other physicians, 70; moderate income patients, 74; old cases still under treatment, 148; total number of cases under nursing care during month, 331. *Classification of diseases for the new cases*: Medical, 60; surgical, 15; gynecological, 2; obstetrical under professional care, mothers, 47; infants, 40; eye and ear, 2; skin, 0; throat and nose, 1; dental, 0; contagious diseases in the medical list, 12; removed to hospitals, 9; deaths, 7.

Special Obstetrical Department.—Number of obstetricians in charge of

cases, 4; medical students in attendance, 5; Guild nurses in attendance, 5; patients, 8; visits by attending obstetrician, 4; visits by students, 36; visits by nurses, 54; total number of visits for this department, 94.

Visits of Guild Nurses (all departments): Number of visits with nursing treatment, 1,549; for professional supervisions of convalescents, 307; total number of visits, 1,856. Cases reported to the Guild by five health physicians, and forty-seven other physicians. Graduate nurses seven, and pupil nurses eleven on duty.

Dispensary Report.—Number of clinics held, 96; number of new patients, 118; number of old patients, 409. *Classification of clinics held*: Surgical, 13; nose and throat, 6; eye and ear, 15; lung, 17; nervous, 1; skin and G. U., 8; stomach, 3; medical, 10; children, 11; gynecological, 9.

THE UNION COLLEGE ALUMNI ASSOCIATION OF NORTHEASTERN NEW YORK.—On Thursday, February 10, 1910, the twenty-second annual meeting of the association was held at the Ten Eyck Hotel, Albany, N. Y., followed by a banquet where it was announced by Dr. Alexander of New York, that \$30,000 had been pledged for a gymnasium. The attendance was large.

THE ASSOCIATION OF AMERICAN PHYSICIANS will hold its twenty-fifth meeting in the New Willard Hotel, Washington, D. C., May 3rd and 4th, 1910, under the presidency of Dr. Henry Hun. An interesting and attractive program will be presented.

THE MEDICAL SOCIETY OF THE STATE OF NEW YORK held its one hundred and fourth annual meeting on January 25th and 26th, 1910, in the City Hall, Albany, N. Y. The following papers were presented: "The Wasserman Reaction in Leprosy," by Howard Fox, New York; "Splenomedullary Leukemia, its Treatment by Roentgen Therapy, with Report of a Case," Homer E. Smith, Norwich and L. A. Van Wagner, Sherburne; "The Diagnostic Value of Eosinophilla," Ira S. Wile, New York; "Some remarks on Anaemia," Charles O. Boswell, Rochester; "The United States Pharmacopoeia, Its Present Status and the Coming Revision," Eli H. Long, Buffalo; "Elements of Prognosis in Valvular Diseases of the Heart," R. Abrahams, New York; "Dilatation of the Heart," Wesley T. Mulligan, Rochester. "The Clinical Significance of Subfebril Temperature in Pulmonary Tuberculosis," Arthur T. Laird, Albany; "A Contribution to the Study of Tremors," N. Neustaedter, New York; "Lumbar Puncture as a Diagnostic and Therapeutic Agent in General Practice," Nelson G. Russel, Buffalo; "Experimental Poliomyelitis and its Bearing upon Epidemic Poliomyelitis," Simon Flexner, New York, and Paul A. Lewis, New York; "Adequacy of the Present Day Treatment of Syphilis Tested by the Occurrence of Syphilitic Nervous Diseases," Joseph Collins, New York; "Effects of Alcohol as Observed in Dermatology," L. Duncan Bulkley, New York; "Tuberculosis of the Bones and Joints," Leonard W. Ely, New York; "Metabolism, its Relation to Bone and Joint Changes," William H. Porter, New York; "The Joint Changes as Related to the System Diseases of the Cork," Bernard Sachs, New York; "The

Rheumatisms, their Etiology and Pathology," Egbert Le Fevre, New York; "Osteitis Deformans, (Paget's Disease) with Report of Two Cases," Henry L. Elsner, Syracuse; "Lantern Slide Demonstration of X-Ray Pictures of Osteitis Deformans and Stomach and Intestinal Diseases," Clarence E. Coon, Syracuse; "Pellagra," Past Assistant Surgeon C. H. Lavinder, Marine Hospital Service; "The Relationship between the State Board of Regents and Training Schools," Joseph Merzbach, Brooklyn; "Some Unsolved Problems in Relation to Nurses' Training School," Charles Stover, Amsterdam; "Test Meal and Feces Examinations; Some New Methods and Their Clinical Value," Anthony Bassler, New York; "Complications of Typhoid Fever Requiring Surgical Treatment," J. B. Harvie, Troy; "The Importance of Care in Closing the Abdominal Incision," Le Roy Broun, New York; "The Chauffeur's Fracture," William S. Thomas, New York; "Shall All Fibroid Tumors of the Uterus be Removed with the Knife?" Frank De Witt Reese, Cortland; "A Case of Human Glanders Treated by an Autogenous Vaccine with Recovery," A. T. Bristow, Brooklyn and Benjamin Whie, Hoagland Laboratory, Brooklyn; "Treatment of Surgical Tuberculosis by Vaccines," James A. McLeod, Buffalo; "Vaccine Treatment of Surgical Tuberculosis," Lewis L. McArthur, Chicago, Ill.; "Vaccine Therapy," Frank Billings, Chicago, Ill.; "The Palliative Treatment of Cancer of the Uterus," Walter B. Chase, Brooklyn; "Treatment of Potts Disease," Brainerd Hunt Whitbeck, New York; "Surgical Consideration of Acute Diffuse Phlegmonous Gastritis," Richard Ward Westbrook, Brooklyn; "Appendicitis in Children," Charles M. Dowd, New York; "Masked Appendicitis," George E. Brewer, New York; "Conditions Simulating Appendicitis," A. B. Johnson, New York; "When to operate in Appendicitis," Joseph A. Blake, New York; "Deductions to be made from 1,000 Hospital Cases," Clarence A. McWilliams, New York; "Appendicitis," Roswell Park, Buffalo. The annual banquet was held at the Hotel Ten Eyck, Wednesday evening, January 26th, at 8:00 p. m.

THE MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY held a regular meeting at the County Court House, Wednesday, February 16, 1910. Dr. Donald Guthrie, Wilkesbarre, Pa., read a paper on "The Differential Diagnosis of Gall Bladder Disease. Ulcer and Cancer of the Stomach."

MEDICAL REVIEW OF REVIEWS.—Beginning with the January, 1910, issue, the old established *Medical Review of Reviews* will be edited by Dr. William J. Robinson, editor and founder of the famous *Critic and Guide*, *Therapeutic Medicine*, and *The American Journal of Urology*. The editorial offices of the *Medical Review of Reviews* have been removed to 12 Mt. Morris Park, W., New York City. The scope of the journal will be enlarged and every department will be strengthened. The subscription price remains the same, namely. \$2.00 per annum.

MATTEAWAN STATE HOSPITAL.—The fiftieth annual report of the medical superintendent, Dr. Robert B. Lamb (A. M. C. '91), of the Matteawan State Hospital, contains a complete statement for the year ending September 30, 1909, also a number of carefully prepared tables.

HOSPITAL NOTES.—The Albany Hospital is now engaged in the collection of \$75,000 for the erection of an up-to-date Tuberculosis Hospital to absorb Dr. Van Rensselaer's Red Cross Camp. All subscriptions are to be sent to Mr. Dudley Olcott.

St. Peter's Hospital is engaged in a financial campaign to remove the debt of \$100,000 recently incurred by the construction of a new addition.

UNITED STATES PHARMACOPOEIAL CONVENTION.—At a regular meeting of the Board of Trustees of the United States Pharmacopoeial Convention held at Columbus, Ohio, January 28th and 29th, 1910, it was resolved, five members of the Board of Trustees assenting thereto, to submit to the next meeting of the United States Pharmacopoeial Convention (Incorporated) the following propositions to amend the Constitution of the Convention in the following particulars:

I. To amend Section 2, Article II, relating to membership, by inserting after the title "the Surgeon-General of the United States Marine Hospital Service," the following: "the Secretary of Agriculture, the Secretary of Commerce and Labor, the Association of Official Agricultural Chemists, the Association of State and National Food and Dairy Department, the National Wholesale Druggists' Association and the National Dental Association."

II. Also to amend said Section 2, Article II, by changing the words "three delegates" in line eleven (page seven of the reprint of the Constitution and By-Laws of 1909) to "one delegate;" the effect of this change being to reduce the representation of each organized body and department to one delegate each.

III. Also to amend Article IV, concerning "Committees and Trustees," by changing the title "Committee of Revision," to that of "General Committee of Revision." (Ibid. last line.)

The Constitution does not require notice to be given of proposed changes in the By-Laws of the Convention, but to make clear the purpose of the change proposed in the present title of the Committee of Revision, it is hereby announced that the Board of Trustees will submit to the Convention propositions to amend the By-Laws as follows: to increase the number of members on the Committee of Revision, hereafter to be known as the "General Committee of Revision" from twenty-five to fifty, said General Committee of Revision to create from its own membership an Executive Committee of Revision of fifteen members, to have immediate charge of the work of revision, and also giving to said General Committee of Revision certain advisory and supervisory powers over the work of the Executive Committee of Revision.

The delegates from the Albany Medical College were, Howard Van Rensselaer, Spencer Lyman Dawes, Victor Ceryl Myers, and from the Albany School of Pharmacy, Willis G. Tucker, Alfred B. Husted, Theodore J. Bradley. Alternate, Harry B. Mason.

PERSONALS.—DR. GEORGE EVERETT BEILBY (A. M. C. '99) after recuperating from a severe attack of typhoid fever in Augusta, Georgia, is now at home.

—Dr. HARRY RULISON (A. M. C. '05), of Albany, will sail with his family for a year of study on the continent, April 5, 1910. Both he and Dr. Faber will devote their time to the study of diseases of children.

—Dr. JOHN PETER FABER (A. M. C. '05) of Scotia, N. Y., will sail on the steamship *New Amsterdam*, for Europe on April 5, 1910.

—Dr. WILLIAM ARTHUR BING (A. M. C. '09) has been appointed assistant bacteriologist and is located at the Albany Laboratory.

—Dr. EDGAR A. VANDER VEER (A. M. C. '98) and Dr. JAMES N. VANDER VEER (A. M. C. '03) entertained at luncheon, January 26, 1910, at 28 Eagle street, for visiting members of the New York State Medical Society.

MARRIED.—Dr. HUGH M. COX (A. M. C. '02) and Miss Margaret Adelaide Kuhn were married January 24, 1910, in New York City.

DIED.—Dr. O. C. ALEXANDER (A. M. C. '54) died at his home in Albany, N. Y., February 9, 1910, aged 80.

—Dr. JOHN CIPPERLY (A. M. C. '56) died at Middle Falls, N. Y., February 7, 1910.

—Dr. ALVIN H. ECCLESTON (A. M. C. '80) died at his home, January 23, from shock and cerebral hemorrhage, following an automobile accident, January 22nd, aged 51.

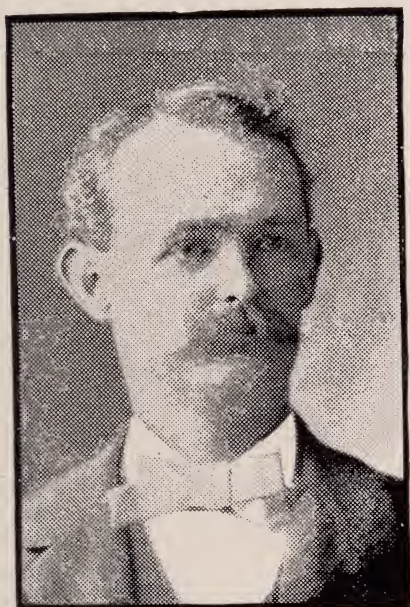
In Memoriam

ALVIN H. ECCLESTON, M. D.

Dr. Alvin H. Eccleston, of the class of 1880 of the Albany Medical College, died as the result of an automobile accident at his home in Providence, R. I., Sunday evening, January 23, 1910. To the *Providence Daily Journal* the *ANNALS* is indebted for the following account of the disaster which resulted in Dr. Eccleston's death, and for the outline of his career. This is the second calamity of this kind to be recorded by the *ANNALS* within a few months, Dr. Pierson C. Curtis, of the class of 1884, having been killed on September 5th last in a collision between his automobile and a suburban electric train.

Dr. Alvin H. Eccleston, one of the most prominent surgeons in Rhode Island, died at his home, 642 Broad street, at 11:50 January 23d, of shock and the bursting of a blood vessel in his brain. These conditions were brought about, it is believed, when an electric car struck the rope connecting Dr. Eccleston's automobile, in which he was seated, and another machine, which was towing it, Saturday evening.

The accident occurred on Westminster street, near Dean street. At the time it was thought no one had been injured, as the rope was soon repaired and the journey to Dr. Eccleston's home continued. The physician, however, was in a dazed condition when he reached home and had to be assisted into the house. He did not speak during the night, and at three o'clock yesterday morning lapsed into complete unconsciousness.



ALVIN H. ECCLESTON, M. D.

*Albany Medical Annals,
March, 1910.*

*By courtesy of
The Providence Daily Journal.*



From this state he did not emerge during the day, sinking gradually, despite the heroic efforts of two physicians, until death came, shortly before midnight.

Dr. Eccleston was in his fifty-second year. During his professional career he devoted himself especially to surgery, and in this branch he made an enviable record. He performed an operation on a patient on Saturday, only a short time before the accident that resulted in his death. While out on a visit his automobile broke down, and he was compelled to telephone for another machine to tow him home. Clarence M. Cummings, a chauffeur, was sent out from a garage. He made fast a line to Dr. Eccleston's motor car, and started toward the physician's home. As the automobiles were crossing Westminster street, near Dean, an Olneyville car, bound down-town, struck the tow-rope.

An examination showed that one of the axles on the towing car was bent and that the mud guard of Dr. Eccleston's car was damaged. Dr. Eccleston had been steering his machine, but was not thrown out by the collision. Whether he was thrown against the side of his car, injuring his head, is not known. He did not appear to be hurt, however, and the journey to his home on Broad street was resumed when the tow-rope was once more fastened. The physician collapsed as he reached the house.

Drs. R. W. Hyman and R. F. Noyes were hurriedly summoned, when members of Dr. Eccleston's family noted his condition. They remained with him during the night, but could not arouse him from the stupor into which he had fallen.

Dr. Eccleston was prominent in Masonic circles in this city. While a resident of Washington county he was prominent in politics, also being elected a member of the town council of Richmond and later sent to the General Assembly as representative from that town. He was also a member of the city council, representing the Fifth ward eight or nine years ago.

Alvin Herbert Eccleston was born in Laurel Glen, in the town of North Stonington, Conn., November 26, 1858, the son of Latham Hull and Harriet Elizabeth (Burdick) Eccleston. His maternal ancestors were among the first settlers of Rhode Island. He received his early education in the public schools of his native town, and at Hopkinton Academy, Ashaway. Conceiving a liking for medicine, he entered the Albany Medical College and graduated in the class of 1880.

Dr. Eccleston commenced the practice of medicine in Charlestown, then moved to Wood River Junction, where he practiced for ten years. In 1892 he removed to this city, where he had lived and practiced since.

While in Washington county, Dr. Eccleston, besides being a member of the town council of Richmond, was chairman of the school committee for five years. In 1889 he was elected a member of the House of Representatives and served two years. In 1890 he was appointed by Governor Ladd a member of the State Board of Health. Soon after coming to this city he was commissioned an examining surgeon for the United States. Shortly after commencing practice in Washington county he was appointed a surgeon for the New York, New Haven and Hartford Railroad and remained in that capacity until he died. He was also surgeon for the Providence Police Association.

Joining the United Train of Artillery, Dr. Eccleston was made major and surgeon, then colonel, retiring with the latter rank. He was also a member of the Rhode Island Medical Society and of the Washington County Medical Society for years.

Dr. Eccleston was a member of the Rhode Island Sons of the American Revolution. He was also a prominent Mason, belonging to Providence Consistory, thirty-second degree, northern jurisdiction, Scottish Rites; Charity Lodge, A. F. and A. M.; Franklin Royal Arch Chapter, Narragansett Commandery, Westerly, and Palestine Temple of Shriners. He was also a former member of the Odd Fellows.

Besides his wife, Dr. Eccleston is survived by one stepson, E. C. Farnum, and a daughter, Miss Hermione. The arrangements for his funeral have not been completed.

ALFRED H. HOADLEY, M. D.

Dr. Alfred H. Hoadley, a member of the class of 1886 of the Albany Medical College, died under tragic conditions at Northampton, Mass., December 29, 1909. Dr. Hoadley contracted septicaemia from a patient and died as a martyr to his duty as a surgeon. The following touching tribute and sketch of his life was published by the *Northampton Daily Herald*:

Dr. Alfred H. Hoadley, fifty-four years of age, died this afternoon in Dickinson Hospital, where on Sunday he underwent an operation for the relief of blood-poisoning contracted while dressing the wounds of a patient. He had shown some improvement Tuesday and it was thought that the chances for recovery were good. Soon after midnight there was a change for the worse and Mrs. Hoadley was hurriedly called. Dr. Hoadley failed steadily until the end. And until the end he was conscious and was able to recognize the wife and other dear ones who were at the bedside.

For three days hundreds of Northampton people have followed with apprehensive interest the news of Dr. Hoadley's condition and during most of the time there has been little to give them ground for hoping for the best. For more than a week past physicians and surgeons have known that the doctor's condition was critical, and for most of that time they hoped against hope that he might recover. One operation was performed before that of Sunday afternoon when the right thumb was removed, and it was thought that as a result of it the sick man might recover. Early last week he went to the hospital for a brief stay, but left there soon afterwards with the unwarranted feeling that he was out of danger. He had to return to the institution, but he had entered the critical stage by that time and all improvement was merely temporary.

Dr. Hoadley was a native of Sheffield, Mass., and spent his early life in that town. He studied medicine at the Albany Medical College and came to this city on his graduation twenty-one years ago. For a year he had an office over Merritt Clark's store. Then for six years he was in the office of Dr. C. Seymour. Thirteen years ago he opened an office for himself and since then had been in practice alone. For the last fifteen years he had been one of the surgical staff of the Dickinson Hospital.

Dr. Hoadley was pre-eminently the true gentleman. In speech and manner and appearance he manifested a nobility of character that was as winning as it was real. He carried into the sick room a personality that inspired complete confidence and that aroused helpful feelings of cheerfulness and resignation. He was an able man and professionally ranked very high. His associates in the medical profession turned to him often for advice, and in consultation he was much sought after. He was the "doctor's doctor" in more than one sense of the term—he was appreciated for his attainments and his ability, he was looked up to because of his high character and because he exemplified all that is to be expected of the practitioner in his relations with his fellows and with the public.

In recent years few tidings from the sick room have been followed with the keen interest that has been shown by the public in the course of Dr. Hoadley's illness. Daily since the last operation was performed, almost hourly, the hospital and the newspaper offices have been asked for news from "the doctor." Simply wonderful has been the manifestation of loving interest in the condition of the quiet, unobtrusive, gentle man who went his way so kindly in and out among the people of this community for more than a score of years. Inquiries came not alone from those who had been his patients, but from those who had come to know of him as one of the best men in the city—one who represented the highest in Northampton's citizenship. But it was not so remarkable that such was the case, for it is the rare man indeed who has, as Dr. Hoadley had, "a tongue that never stings, a touch that never hurts, and a temper that never tires." His own personality, clean and fine, and his own life, simple, genuine, and serene, made a place for him that was broader than the circle of his personal friends, of his acquaintances, of his patients. The solicitude of the men and women of the city was a great, pathetic tribute to the man whose Christian manhood made him one of the noteworthy figures of the community.

Dr. Hoadley leaves his wife, who was before her marriage Miss Grace Leigh, of this city; two sons, Leigh and Robert; a sister, Mrs. Cowles, and a brother, Prof. George A. Hoadley, of Swarthmore University, Pennsylvania, sometime head master of the Northampton High School.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

The Prevention and Treatment of Abortion. By FREDERICK J. TAUSSIG, A. B., M. D., Lecturer in Gynecology, Medical Department, Washington University; Obstetrician to the St. Louis Maternity Hospital; Gynecologist to the St. Louis Skin and Cancer Hospital; American Gynecological Society, American Association of Anatomists. 179 pages, 59 illustrations. St. Louis: C. V. Mosby Company, 1910.

The writer's purpose in presenting this monograph, the first in the English language since the appearance of Thomas' "Abortions" in 1895, his reason for writing of a condition that is universally given considera-

tion "not at all proportionate to the importance of the subject" and the plan of the work are best given by extracts from the author's Introduction: "* * * a resumé of the present ideas regarding the cause, prevention and treatment of the premature expulsion of the human ovum." "Abortion and miscarriage compose a very considerable percentage of all pregnancies (one in five according to most authors) * * * " "The mortality after abortions is higher than that after confinements." "Complications involving operative measures occur with far greater frequency, and every gynecologist knows what a large proportion of his patients date the onset of their trouble to a mismanaged abortion." "It is a far more serious condition than we formerly considered it * * * "

"Although the title of the monograph throws the emphasis on 'Prevention and Treatment,' these could not be thoroughly understood without at least a brief review of the anatomy, pathology, etiology and diagnosis of this condition. Hence, the first portion of the book is devoted to these matters. In the concluding chapters I have considered certain correlated topics, such as mole pregnancy, missed abortion, therapeutic abortion, etc."

"The writing of this monograph, therefore, has been undertaken in the hope that the general practitioner might gain the essential facts as we know them at present, and might be guided to a selection of the form of treatment suitable for the case in hand."

Abortion is defined as the pre-viable expulsion of the human ovum. "It occupies the same relationship to the first six months of pregnancy that labor does to the last three." "The terms abortion and miscarriage are used synonymously."

The work has been divided into three parts (with 19 chapters) and an Appendix.

Part I, entitled General Considerations, consists of eight chapters devoted to: Frequency of Abortion, Anatomy of Early Pregnancy, Pathology of Abortion, Etiology, Symptoms and Clinical Course, Diagnosis, Differential Diagnosis, and Prognosis.

The author's statistics from gynecological sources "make the ratio of abortions to confinements 1 to 2.3." Of 500 cases considered, abortion developed at the third month in 222, next in frequency at the second month in 157, and least in frequency at the sixth month in five. In considering the reasons for the decidedly greater frequency during the third month, the writer states that "usually it is not until the second period has been passed that women feel so sure of being pregnant as to be willing to submit to instrumental interference." He adds "this reason seems especially weighty when we consider the fact that such criminal instrumental interference is probably the direct cause of almost fifty per cent. of all abortions."

"Syphilis causes fetal death, and hence abortion, usually at a somewhat later period than the third month."

That "we can arrive at an understanding of the pathology and correct management of abortions" the anatomical condition of the developing ovum is considered; the early pregnancy being divided into three stages,

namely—first six weeks, from six to end of twelve, and from twelve to twenty-four weeks.

The pathological characteristics of the three stages are considered separately.

Abortion is "but a slight variation of a physiological action of the uterus." Etiology then considers the various predisposing and exciting causes of "premature uterine contraction."

Symptoms and physical signs not only of the stage of abortion, but also of the degree of emptying of the uterus, are given in full. The differential diagnosis is complete, especial attention being given to the differentiation "between tubal pregnancy, or, rather, tubal abortion, and intra-uterine abortion, especially when the latter is associated with inflammatory trouble in the adnexa."

Part 2 deals with Prevention of Abortion. A chapter each is devoted to Prophylaxis before Conception, During Pregnancy, Prevention of Threatened Abortion, and Prevention of Criminal Abortion.

The recently improved serum reaction for the diagnosis of syphilis is given and the active treatment of this important factor in abortions urged. The author mentions for consideration a "strumous group" of cases ("in what may be termed the pre-tubercular condition"), thought to be "almost as numerous as the syphilitic abortions."

The care with which the essentials of the preventive treatment of threatened abortion must be carried out is apparent from the author's admission that "the proportion of failures among the lower classes is nearly nine out of ten * * *"

In the chapter on Prevention of Criminal Abortion the author states: "It seems probable that this question will become one of the most serious sociological problems of the coming years, for every community must in self-preservation enact laws and exert its utmost influence to stem this tide which will otherwise sweep it to destruction." It is doubtful if there are in print four more valuable pages than those devoted by the author to a discussion of this question.

Part 3 contains nine chapters, devoted to Treatment. The chapter headings are: Treatment of Uncomplicated Abortion, After Treatment, Operative indications, Instrumentarium, Operative Technique, and Complications and Their Treatment, including Hemorrhage, Retained Placenta, Sepsis, and Perforation.

The questions of interference in the uncomplicated case, the use of the douche and of ergot are considered. After-treatment is outlined, considering the analogy of the condition to full-term confinement. The operative indications are summarized.

The chapter on Operative Technique urges perfect asepsis, a complete instrumentarium, describes and gives indications for the various operative procedures (expression of the ovum, tamponade, curettage, dilatation of the cervix, digital and instrumental removal, etc.), and illustrates the important points of the technique.

Ecouvillonnage, or "brushing the uterine cavity * * * for the purpose of loosening smaller fragments of placental tissue, particularly in

septic cases," is described as a method "used almost exclusively in France, but with such apparent success that its greater adoption in this country should be furthered."

Under Complications the author considers the causes and treatment of hemorrhage; notes the dangers of retained placenta, and gives a table summarizing the treatment of retained ovum, ovisac, or placenta; especially emphasizes the conservative treatment of sepsis; and urges the prophylaxis of perforation.

Appendix A is devoted to Missed Abortion, and B to Mole Pregnancy. Appendix C considers Therapeutic Abortion, defining it as "induction of abortion on the part of the physician in order to save the life of the mother," and giving its indications and methods of accomplishment. Appendix D is added as a short review of Ergot and Its Preparations as the "most important medicine employed in the treatment of abortions."

Throughout the work the essential point the author would urge is that no general rules for the treatment of abortion can be laid down, each case becoming a law unto itself to be treated along certain well-defined lines. Such treatment is possible only by an appreciation of the anatomical and pathological conditions, which in turn both explains symptoms and indicates treatment. The perfected technique of such treatment the author especially urges.

The general excellence of the illustrations is to be commended. To illustrate operative procedures the diagram and photograph each is lacking in certain (fortunately opposite) particulars. The combination of the two such as the author has employed impresses the necessary details in technique (as careful draping of the patient, the use of rubber gloves and armlets, etc.), and at the same time shows what the operation is to accomplish and how it is brought about.

The brevity of a work devoted to a single (though most important) department of surgery has made possible the use of easily-read type, heavy paper, numerous illustrations, and of "some fifteen or more selected histories," which are interesting though unnecessary to an interpretation of the clear text; and the presentation of the subject in an altogether attractive form.

The writer has succeeded in presenting a work of value, not only to the general practitioner ("to whom it is primarily addressed") but also to those specialists to whose work the subject treated is at least closely allied.

P. T. H.

Obstetrics. A Manual for Students and Practitioners. By DAVID JAMES EVANS, M. D., Lecturer on Obstetrics and Diseases of Infancy, McGill University, Montreal, Canada; Assistant Obstetric Physician to the Montreal Maternity, etc. Second edition, revised and enlarged. 439 pages, 172 engravings. Philadelphia and New York: Lea & Febiger, 1909.

The author's preface states that "the entire book has been revised and numerous changes and additions introduced."

Under Pregnancy (normal) the writer deals fully with embryology, the ordinary physiological functions, the diagnosis of pregnancy, and ends with an inclusive account of its hygiene and management. Numerous diagrams supplement the concise, orderly text.

Obstetrical anatomy, mechanism and course of normal labor, management of normal labor, and puerperal state are discussed in order.

Under Pathology of Pregnancy, the toxæmias, abortion and premature labor and ectopic gestation have been gone into in detail: the general treatment being especially complete. Under treatment of eclampsia, it is true as the author says that "labor in a large proportion of cases fortunately sets in soon after convulsions begin." It is equally true that it often does not progress and the overcoming of the rigid cervix might be expected to call for more detailed consideration in treatment.

Dystocia is defined as "abnormal labor;" so under it are considered its foetal and maternal causes, and the accidents and diseases of labor. Of especial interest are the accounts of uterine inertia and rupture of the uterus.

Pathology of the puerperal period deals with puerperal infection as satisfactorily as with the earlier important pathological conditions of pregnancy and labor. The operative treatment (of puerperal infection) seems to have been but suggested when compared with the full general treatment advised. Under treatment of post-partum hemorrhage, the advice to knead the uterus when a glass or metal douche tip has been inserted to the fundus in giving the douche is at least questionable.

The common and profitable obstetrical operations are completely described.

The work has much to commend it. The large issues of obstetrical practice have been considered carefully and with profitable detail. The general treatment of these conditions is especially satisfactory, being more full than in many of the larger works. The usual obstetrical data is complete. The general arrangement under prominent headings and sub-headings, the use of heavy type for the topic words of paragraphs, and the complete index make the book ready of reference. The text is supplemented by the free use of satisfactory diagrams and cuts. In appearance the work is attractive.

A book so recently revised might well be expected to urge the routine use of rubber gloves in delivery. The contaminated right hand, showing protection of the perineum (fig. 75) is hardly in keeping with the improved technique of delivery. One would expect at least mention of the use of lysol among the "chemical antiseptics;" and of the prophylactic instillation of silver preparations in the eyes of the new-born. The use of formalin as a douching fluid as urged is surely less common than the employment of the dorsal position in normal delivery, of which no mention is made.

Aside from general rules for nursing, nothing is told of the care of the child except "to take its temperature regularly." It is disappointing to learn that for further directions as to care of the new-born the reader is referred to the compend "of this series" on "Children's Diseases."

The foregoing detract from a work otherwise complete, up to date and in every way valuable.

P. T. H.

Hand-Book of Obstetrics. By R. CADWALLADER, A. M., M. D., Assistant in Obstetrics University of California, Medical Department, San Francisco, Calif. 370 pages, 104 illustrations. Philadelphia, F. A. Davis Company, 1908.

In the preface the author states that "he has endeavored to eliminate all possible extraneous matter and condense into a small volume the essential facts of obstetrics."

"He would fit the work for student use."

To be so fitted would seem to require that: terms be clearly and concisely defined, the common obstetrical data be systematically arranged for ready reference, and that the whole be interspersed with illustrations showing well the points the text describes and the technique the author urges.

The essential facts of obstetrics are contained, but a glance at the text shows the subject is not presented in a way to be of much value to the student as a text book. The illustrations for the most part are satisfactory. However, those dealing with the important subject of delivery are from a recently revised book already commented upon unfavorably in this particular.

That the author "has not entirely resisted the temptation to give personal opinions and experience" is apparent, for the characteristic feature of the work is a collection of instructive observations covering the common obstetrical questions in an intensely practical way, touching upon many points ordinarily not taken up; the whole being presented in a manner always entertaining and often original.

The author's chapter on "Nursing" may be cited as one of several full of valuable observations and worthy of notice. "Superstitions," "Religious and Legal Status of the Child," and "Criminal Abortion," of which the author writes, are among the questions commonly not discussed in works of the kind.

Some of the writer's unique observations are worthy of notice: "Most cases of puerperal insanity seem to have brown hair and brown or gray eyes." Under "Belly Bands" (for the baby), "they should not be hemmed, above all things, but may be herring-boned over the edge or pinked." Under "Post Partum Care," "for one hour * * * the womb should be * * * watched. It is a good plan for the husband to sit and hold it up for that time; some one should."

The work impresses one as a collection of full, but little systematized, notes on obstetrics and subjects allied more or less closely to it, compiled by one of extensive experience, keen observation and much zeal. As such it makes interesting and instructive reading for student and practitioner. To be of distinct service to the student as a hand-book, it would seem to require revision along the lines earlier suggested.

P. T. H

Appendicitis and Other Diseases of the Vermiform Appendix. By HOWARD A. KELLY, M. D. J. B. Lippincott Company, Philadelphia and London.

In the first edition of this work, which appeared in 1905, the author endeavored to collect all the more important facts known about diseases

of the appendix. In this edition those facts have been added to where occasion has offered, and in addition an especial effort has been made to make the work of more practical value to the general surgeon. Much of the material presented is the result of observations made by Dr. Kelly and his assistants. As is the custom in all of the books written by Dr. Kelly, the illustrations are profuse and splendidly executed, thus teaching much at a glance which pages of subject-matter would hardly convey. Many of these drawings are made from life as the conditions have been presented in the course of operations, and with such trained artists as Horn, Broedel, Becker, and Huntington to portray those conditions, they are naturally graphic and accurate.

The volume is subdivided into twenty-five chapters. The first chapter deals with the history of appendicitis. The next two chapters deal with the anatomy and the physiology of the appendix. The following four chapters present all that is of importance in the pathology of the organ. In chapter nine all that is known of the etiology of appendicitis is discussed; this chapter is necessarily brief. Chapter ten is occupied with the clinical history, while chapter eleven presents the diagnosis, with especial reference to the differentiation from other conditions. A brief chapter is devoted to the leucocytes in appendicitis. Appendicitis and typhoid fever is the subject of another brief chapter. Considerable attention is devoted to appendicitis in youth and old age, and a brief description is given of typhlitis. Treatment previous to operation and operative treatment are very practical chapters and contain all that is essential, while appended to these are chapters on abscesses and peritonitis. After-care and post-operative sequelae is an important chapter and one too often insufficiently emphasized. Appendicitis in gynecology and obstetrics is another important practical chapter. Neoplasms in the light of recent investigations is an interesting chapter, as is the chapter devoted to specific infections of the appendix. Hernia of the appendix is of some practical interest and importance. The volume closes with a chapter on the medico-legal aspects of appendicitis, which, however, is more of a curiosity than otherwise.

This volume contains 489 pages of subject-matter, to which is appended an excellent index of names as well as a general index. There are three plates and 215 illustrations, all admirably executed. It is of decided value that the important facts connected with such a troublesome organ should be collected into a single volume, and this Dr. Kelly has certainly done. The work should be cordially welcomed by the surgical profession, especially in the revised and more practical edition.

A. W. E.

A Text-Book of Surgical Diagnosis. For students and practitioners. By EDWARD MARTIN, M. D., Professor of Clinical Surgery, University of Pennsylvania, Philadelphia. Very handsome octavo of 764 pages, with 445 engravings, largely original, and 18 full-page plates. Cloth, \$5.50, net. Lea & Febiger, Philadelphia and New York.

In this volume the author attempts to present the important facts connected with the diagnosis of surgical diseases, and especial care is taken

to emphasize those facts which will lead to an early diagnosis and thus the employment of surgical measures at an early and favorable stage of the disease. He justly believes that the usual text-book picture of many surgical maladies is the picture of the condition in an advanced stage, often too far advanced for a favorable prognosis, even though the most radical procedure is adopted.

This is but the natural result of the methods of teaching students so generally employed. He realizes the great importance of laboratory methods and early exploration in obscure conditions, and his efforts to bring about early diagnosis are most commendable. The volume, consisting of 737 pages of subject-matter, is subdivided into nineteen chapters. To this is appended a most excellent general index. Chapter one on laboratory diagnosis, by Dr. Longcope, is a most excellent presentation of this important subject. This is followed by a chapter on "the application of the X-ray in surgical diagnosis, contributed by Dr. Pancoast. In order, the subjects of Inflammation, Complications, and Sequels or Trauma, Tumors, The Skin, The Blood-vessels, The Lymph-vessels and Glands, The Muscles, Tendons and Brusae, The Bones and Joints are carefully considered. Dr. Weisenburg has written the chapter on diseases of the nervous system, which is a most excellent presentation of the subject. The last eight chapters are devoted to regional diagnosis, the head, face, and neck being considered in one chapter, the spinal column in another, and the upper extremity in another. This latter chapter contains a considerable number of most instructive drawings from X-ray negatives of injuries to the elbow joint. These are from the collection of Dr. Pancoast. Following this are chapters on the diagnosis of diseases of the thorax, abdomen, and lower extremity, the latter also well illustrated with drawings from X-ray negatives. The last two chapters of the volume deal with the diagnosis of diseases of the genito-urinary organs and gynecological diagnosis.

The volume contains 445 engravings and eighteen plates in color and monochrome and most of these illustrations are well chosen and well executed. Taken as a whole, the volume is a most commendable presentation of the subject and one which should appeal to every practitioner of medicine, for it is the general practitioner who usually sees the early stages of surgical disorders, and who, by early and accurate recognition of the condition, can do so much toward the early relief of conditions which, if allowed to go, might and do so often prove serious or fatal.

A. W. E.

A Text-Book of the Principles and Practice of Surgery. By GEORGE EMERSON BREWER, M. D., Professor of Clinical Surgery in the College of Physicians and Surgeons, New York. Octavo, 908 pages, 415 engravings, and 14 full-page plates. Cloth, \$5.00 net; leather, \$6.00 net. Lea & Febiger, Philadelphia and New York, 1909.

That there are a place and a decided demand for one-volume text-books of surgery, which occupy a midground between the manual and the systems of surgery, is evidenced by the appearance of this work in a

second edition. The practitioner and the surgeon both have need of a compact and accurate book of reference, which will supply the desired information quickly and in a brief and comprehensive manner, and in such a volume as this we find these requirements adequately met. From a large personal experience as well as from an extensive knowledge of the literature, the author has produced a work which, while in a way reflecting his own ideas and methods, contains nevertheless all the more important surgical facts. The present edition has been enlarged by about 200 pages of subject-matter, together with many new illustrations, and an especial effort has been made to bring it quite up to date.

Certain subjects have been more elaborately treated than in the first edition and certain other new subjects added. Considerable attention has been given to surgical pathology, the aim being to make the subject as practical as possible and to emphasize especially the macroscopical rather than the microscopical pathology.

The volume contains 874 pages of subject-matter, to which is appended a most excellent index. There are 415 engravings in the text and fourteen plates in monochrome and color. Most of the illustrations are well executed and the volume as a whole is extremely well put together.

Beginning with chapters on inflammations, infections, and tumors, the author next takes up shock, technique, and anesthesia. After this comes a consideration of the regional surgery of the entire body. This is followed by chapters on diseases of bones and joints, including fractures and dislocations, hernia, amputations, and deformities.

The volume as a whole reflects the painstaking care and accuracy of the author, and we know of no one-volume text-book of surgery which is so complete and up-to-date as this. It should surely receive the recognition to which it is entitled and should be of the greatest service to both physician and surgeon.

A. W. E.

Bier's Hyperemic Treatment in Surgery, Medicine, and All the Specialties: A Manual of Its Practical Application. By WILLY MEYER, M. D., Professor of Surgery at the New York Post-Graduate Medical School and Hospital, and Professor Dr. VICTOR SCHMIEDEN, Assistant to Professor Bier at Berlin University, Germany. Second revised edition. Octavo of 280 pages, illustrated. Cloth, \$3.00 net. W. B. Saunders Company, Philadelphia and London, 1909.

Believing that the profession would welcome such a volume, the authors, somewhat more than a year ago, published a manual of the practical uses of Bier's hyperemic treatment. This manual has been so much in demand that a second edition of it now appears somewhat enlarged and amplified in its scope. They have also added an index of the world literature on the subject which appears to be quite complete. The volume is, of course, modeled after the monograph by Bier, but has the decided advantage over a translation of brevity, together with some practical suggestions added by the authors.

This volume contains 215 pages of subject-matter which is divided into two parts, a so-called "General Part" and a "Special Part." The general part presents the advantages of hyperemic treatment over other methods, the methods of inducing hyperemia and the general rules for the application of hyperemia. In this part the technique is very carefully described and illustrated and too much emphasis cannot be laid upon these chapters, as the results obtained vary directly with the technique employed. The special part is concerned with the treatment of special diseases by means of artificial hyperemia. The most important chapter in this part is that devoted to hyperemic treatment in surgery, including its application to traumatisms, inflammations, and infections, acute and chronic, as well as various surgical diseases in the treatment of which this method can be advantageously employed. There are also chapters on the hyperemic treatment in medicine, gynecology, obstetrics, genito-urinary surgery, otology, ophthalmology, rhinology, pharyngology, and laryngology, as well as neurology and dermatology. It will thus be seen that the application of hyperemic treatment to the entire realm of medicine is presented and illustrated, both with drawings as well as characteristic case histories. Altogether the volume is a most practical and valuable manual of this most efficient addition to the medical man's armamentarium and makes it possible for every medical man to perfect himself in its use. Inasmuch as this is the first and only comprehensive work of this kind in the English language, the appearance of this second edition so soon after the first is readily explained. It is certainly a volume which should have a wide circulation among the medical profession.

A. W. E.

A Handbook of Medical Diagnosis. By J. C. WILSON, A. M., M. D., Professor of the Practice of Medicine and Clinical Medicine in the Jefferson Medical College, and Physician to its Hospital, Physician to the Pennsylvania Hospital, Physician-in-chief to the German Hospital, Philadelphia. 408 text illustrations and fourteen full-page plates. J. B. Lippincott Company, Philadelphia and London.

Books on the diagnosis of disease will be welcome so long as they bring to the reader anything that will assist him in gaining a clearer conception of the conditions which come under observation. In order to do this the text must either contain new methods or else must arrange the facts already known in such a way that they may be more easily utilized. It is mainly in this second way that this book will appeal to medical men.

The book is divided into two chief parts. The first is devoted to the exposition of the general methods of diagnosis, which includes physical diagnosis, examinations of blood, urine, etc., and the interpretation of the single symptoms and signs related to the systems within the body.

In the second part one is taught to interpret the meaning of the complex signs and symptoms as they are met with in disease by applying the methods outlined in part one.

The text is written in a very direct and clear way and with the help of the index can obtain information on any given subject without difficulty.

The illustrations are exceptionally well chosen. In their selection the writer must have had in mind the importance of inspection.

The directions for making lumbar puncture seem to have been inadvertently omitted.

H. W. C.

A Practical Treatise on Diseases of the Skin. For the use of students and practitioners. By J. NEVINS HYDE, A. M., M. D., Professor of Dermatology and Venereal Diseases in the University of Chicago, Medical Department (Rush Medical College). New (eighth) edition, thoroughly revised and much enlarged. In one very handsome octavo volume of about 1,137 pages, with 223 engravings and 58 full-page plates, in colors and monochrome. Cloth, \$5.00 net; leather, \$6.00 net. Lea & Febiger, Philadelphia and New York, 1909.

When a book has reached its eighth edition there is little doubt that it has already received the stamp of approval, and this one is not an exception. In this new edition, however, new articles have been added on the diseases of warm countries and tropics that affect the skin, affections of the nails, and dermatoses affecting the mucous surfaces.

As the diagnosis of skin diseases is so much a question of retaining a mental picture of other similar skin lesions for the sake of comparison the numerous and excellent illustrations will be of much help. We are glad to give the book our approval.

H. W. C.

TUBERCULOSIS

Edited by Arthur T. Laird, M. D.

Regarding Immunity to Tuberculosis. (Ueber Tuberkuloseimmunität.)

FRANZ HAMBUBGER. *Beiträge zur Klinik der Tuberkulose*, 1909, xii, 18.

Hamburger reports four series of experiments. In most experiments dealing with this subject relatively large masses or doses of tubercle bacilli have been used, while under natural conditions only small numbers of bacilli are commonly concerned in the infection. The course of the infection from day to day should be carefully studied. This is not practicable in the ordinary inhalation or feeding experiments, but can be done when the skin is used as the site for inoculation and relatively weak dilutions of cultures of tubercle bacilli (1-100 to 1-10,000) are employed.

In the first series of experiments three guinea-pigs were inoculated and compared with three control normal guinea-pigs. In making the inoculation the skin was shaved, scratched without drawing blood and the emulsion of bacilli was rubbed in. The course of a primary cutaneous infection was followed, and at the same time the behavior of the lymph glands near the part infected was noted. Afterward the course of a subsequent infection in the same animal was studied. Following the primary

infection no signs of a reaction appeared until after eight to twelve days. At this time the lymph glands connected with the area had already begun to enlarge. A second infection of these same animals produced only a transitory reaction at the point of inoculation, and there was less enlargement of the lymph glands than in the controls. The constitutional disturbance was slight. The primary infection, therefore, appears to confer some immunity. As noted, it has a period of incubation of eight to twelve days.

Second series of experiments. Five white (Albino) guinea-pigs were infected by way of the skin. Two were normal, one had been treated with tuberculin, two were tuberculous. These animals showed the same effects as regards incubation period and immunity production as the animals in the first series. The tuberculin-treated animal and one other died of an intercurrent disease.

In the third series of experiments three guinea-pigs received relatively large doses of tubercle bacilli intraperitoneally. One was tuberculous, one had been treated with tuberculin and dead tuberculin bacilli and one was normal. The tuberculous animals showed a more immediate and severe reaction but lived longer than the other animals.

In the fourth series of experiments six guinea-pigs were used, four tuberculous and two controls. Two different strains of tubercle bacilli were employed, one of the bovine type and one of the human type. The inoculations were given subcutaneously. Immediate local reaction at the site of inoculation took place in the previously tuberculous animals. One of the animals that had been inoculated with bacilli of the human type showed immediate reaction to inoculation with bacilli of the bovine type. The subcutaneous injection in some cases produced abscess, in others only infiltration. In any one animal the intensity of the reaction varied with the concentration of the emulsion of the bacilli used.

The author's interpretation of his results is as follows: A tuberculous guinea-pig differs from a normal guinea-pig in its reaction to tubercle bacilli. A second infection with tubercle bacilli causes an immediate reaction in the tuberculous pig. The intensity of the reaction depends in part upon the number of bacilli used. Large doses given intraperitoneally may cause the immediate death of the animal. Smaller doses given subcutaneously cause an immediate (within twenty-four to forty-eight hours) visible swelling; very small doses a reaction not immediately demonstrable. That some reaction is produced is shown by the fact that the reaction that would occur later in a normal animal does not appear. This he considers an indication of immunity. There are analogies between these reactions and the tuberculin reaction. Just as a tuberculous animal can be killed in a few hours with large doses of tubercle bacilli, so he can be dispatched with large doses of tuberculin (500 mg.). Just as small masses of tubercle bacilli injected subcutaneously are followed by local phenomena of inflammation and by fever, small doses of tuberculin produce similar effects. As very dilute suspensions of tubercle bacilli rubbed in the skin produce no visible effect, dilute tuberculin inoculations are also without apparent result. More concentrated tuberculin and larger masses of tubercle bacilli when applied to the skin both produce infiltration without fever within twenty-four to forty-eight hours.

From these analogies Hamburger infers that an individual who reacts to tuberculin possesses a certain immunity to a new infection with small doses of tubercle bacilli. How far the results of the experiments are applicable to man is a question. Hamburger found that over ninety per cent. of children of the age of puberty reacted to tuberculin. Almost every man, at least once in his life, has tuberculosis. Many autopsies show but one tuberculous lesion, consequently in spite of frequent reception into their systems of tubercle bacilli, many individuals have but one real tuberculosis infection (illness). The immunity produced by the first infection has protected them against subsequent inoculations. This immunity, however, is not absolute. It is better to use some other term to represent the fact that every one once infected with tubercle bacilli possesses an altered reaction capacity toward them. "Allergie," Von Pirquet's term, "specific tuberculosis allergie," better represents the condition. The tuberculin reaction is an indicator of the presence of this allergie. Tuberculous allergie means probably for many men lessened susceptibility to fresh infection. Whether such relative immunity will be produced artificially in man by tuberculin, dead tubercle bacilli or attenuated living bacilli is a problem not yet solved. The principle for prophylactic, active immunization has been found. The practical application may be far in the future.

The Early Recognition of Lung Tuberculosis with the Aid of the X-Ray.
(*Die frühzeitige Erkennung der Lungentuberkulose mit Hilfe der Röntgenstrahlen.*)

H. RIEDER. *Deutsches Archiv für klinische Medizin*, 1908, *xcv*, 62.

After a few preliminary remarks regarding technique the use of the X-rays in the diagnosis of incipient tuberculosis is discussed.

X-ray examination supplements the investigation by percussion and auscultation and also reveals the presence of smaller or deeper-lying diseased areas, especially in the central parts of the lung. While percussion and auscultation bring to light lesions comparatively superficial (not more than 2 cm. below the surface), the X-rays reveal deep-seated processes, which without its use could not be discovered at all. This is especially true regarding the pathological changes which precede an early hemoptysis. Although the examination does not always establish the position of the bleeding point, it often reveals the location of the tuberculous process which causes it.

In early tuberculosis of the lung it is found by the X-rays that not only in children, but also in adults, the lymph glands of the respiratory tract are almost always diseased.

Gland shadows may be cast by hyperplastic and anthracotic glands as well as by those that are caseous or calcified. But normal lymph glands throw no shadow that can be differentiated from that caused by the surrounding tissues.

There is no doubt that the presence of disease of the bronchial glands in children and adults can be detected first by the use of the X-ray. If the swelling is caused by tuberculosis there is often a significant mottled appearance of the gland shadow. Beside this, there is found in close connection with it various shadows which help point out the way in which the tubercle bacillus has gotten into the lungs.

While in children the tuberculosis remains localized principally in the region of the bronchial glands, in adults there are often threadlike shadows, especially at the root of the lungs, and the hilum glands which extend toward the apices, and give support to the theory that an original tuberculous infection of the lymph glands about the hilum has been followed by a peribronchitic lymph stasis, a tuberculous filtration of the lymph vessels. These tuberculous lymph strands reveal themselves in the form of shadows, sometimes extending toward the apices of the lung, at other times in the direction of the shoulder-joint, or sideways from the hilum in a horizontal direction, or directly forward toward the anterior surface of the lung. Sometimes they extend along the borders of a lobe and represent a form of disease which is combined with interlobar changes in the pleura, which only rarely would give rise to physical signs distinguishable by percussion, and perhaps only to be found in the axillary region.

The tuberculous infiltration sometimes remains confined to the region of the hilum and produces a tumorlike deposit with irregular edges which may extend quite a distance into the lung area. These shadows are similar to those produced by a central pneumonia, but in tuberculosis are usually bilateral. These X-rays findings are evidence in favor of the frequent occurrence of aerogenous infection at least in adults, since apparently the inhalation of the bacilli-laden air has given rise to disease at the root of the lungs, and an infection of the glands at the hilum, from which the process has spread along the lymph channels or eventually by the blood or through the bronchi.

The hilum is always diseased, no matter whether the tuberculous process in the lungs is located. It is often, moreover, the only seat of the disease. It will not do, however, to conclude that here is tuberculosis simply because the markings about the hilum are deeper, or because there is a mass of shadow bands in that region. Only when there is typical swelling of the glands, filmlike bilateral shadow formations or lymph strands in a lung field, is one justified in making the diagnosis. The confirmation of the diagnostic significance of these various appearances by *post mortem* examination is not yet as complete as it could be wished, but these recognized signs are rapidly being supported by pathological investigation. The author reports his experience with the use of the X-rays in sixty cases. Brief histories are given and a number of illustrative plates. The findings seem to be more distinct in fresh and active tuberculosis than in latent or healed disease, where they are commonly obscured by pleuritic changes. The various types of disease which have already been described were found in his series.

ALBANY MEDICAL ANNALS

Original Communications

THE DIFFERENTIAL DIAGNOSIS BETWEEN CANCER AND ULCER OF THE STOMACH AND GALL BLADDER DISEASE.

Read before the Schenectady County Medical Society, February 18, 1910.

By DONALD GUTHRIE, M. D.,

Surgeon to Robert Packer Hospital, Sayre, Pa.

I. GALL BLADDER DISEASE.

Four stages of gall bladder disease are distinguished, based upon the peculiar types of digestive disturbances:

First.—Cases of mild gastric disturbance, distress with gas, upward pressure, coming on soon after food, or at irregular times, of sudden onset, eased by belching, or slight vomiting, and passing away almost unnoticed, and without treatment, though many remedies receive the credit for what is a natural return to health. These sudden mild attacks of dyspepsia are considered by Graham to be quite as typical of gall bladder disturbance as are the severe typical attacks which usually supplant the mild ones.

Second.—The second stage of the disease is seen in those cases with more or less prolonged dull pain in epigastrium, right arch, or whole liver area. This pain is increased by food, exertion and motion. In some cases deep respiration gives pain, and when located posteriorly is often called pleurisy. During the attack, the dyspeptic symptoms are likely to be present, and often a gastric lesion is diagnosed.

Third.—In the third class we have the cases in which the diagnosis is most often correctly made—the typical gall stone attacks: sudden, severe epigastric pain radiating to right arch (at

times to the left), through to the back or to scapular region, upward pressure, spasm of the diaphragm with nausea and vomiting, with sudden return to perfect health. These sudden, severe attacks with sudden cessation are peculiar to gall stone disease when no complications are present, and, while usually bearing no relation to food, are often called acute indigestion, acute gastritis, gastralgia, neuralgia of the stomach, and other foreign names.

Fourth.—In the fourth condition, we have chronic gall bladder disease with adhesions, perforations, contractions, duct obstructions with infection, and pancreatitis. Here chronic gastric disturbances often predominate and the picture is closely related to chronic ulcer with complications. The key to the diagnosis usually depends upon the development of the early history.

Gall bladder disease is more common in women than in men. Seventy-five per cent. of our cases were women, and peculiarly common to women who have borne children, — ninety per cent. of these women had had children. It is interesting here to note that many of the attacks occur soon after labor or in the puerperium. Many of the cases give a history of having had typhoid fever.

Jaundice is not to be considered too important a symptom in the diagnosis of gall bladder disease; many of the cases having stones in the common duct give a history of never having been jaundiced. As one prominent American surgeon has often said, "Why wait for nature to hang out a yellow flag to tell you what the trouble is?"

II. ULCER.

Chronic ulcer of the stomach has a definite, clear cut symptomatology, especially so when situated in the pyloric end of the stomach or in the duodenum, as the lesion recedes toward the cardia, the clear cut symptoms lessen and this peculiar pathognomic character may be lost.

It is important to note first that the histories of those who come to operation cover years of complaint and that for much of the time the periods of attack and periods of freedom from symptoms alternate. Early in the history the appetite remains good, nutrition does not fail, and food brings immediate relief to all symptoms: the pain, distress, gas, sour eructations, nausea and vomiting to return one to four hours after meals: the heartier

the meal the more marked and prolonged the relief. During periods of attack, this precise relief of symptoms by food, drink, and the regular return one to four hours later is very characteristic, and prevails until gastric function is interfered with by complications. After many periods of attack, the characteristic type of symptoms may be less definite, the attacks are apt to be more prolonged and severe and the periods of relief shortened. Appetite may fail or food not taken because of later distressing symptoms, thus nutrition suffers in this later stage. The chronicity and periodicity of this condition is not peculiar, neither the degree nor location of the pain, nor gas, nausea, vomiting or sour eructations: these symptoms are common to all forms of chronic dyspeptic types of trouble—gall bladder, appendicitis, cancer. The characteristic point is the time the symptoms appear, their regularity after meals, and the equally ready control by food, vomiting, irrigation, etc. This regularity of symptoms, meal after meal, day after day, and their ready control, during the period of attack is hardly approached by any other organic or functional condition.

Later, when complications have arisen, the symptoms change and become less characteristic. Food may increase the distress instead of giving ease. The distress may be nearly continuous, instead of a fixed time after meals, and the periods of real relief may disappear; appetite and nutrition usually fail. The early characteristic history will lead us to a correct diagnosis when we are in the presence of the chronic complicated ulcer development.

III. CANCER.

Graham, from his wonderful experience in diagnosing gastric disorders, has divided his histories of cancer into three groups:

First.—Those preceded by a clear and prolonged typical ulcer history.

Second.—Those in which, years before the recent continuous attack, a stomach disturbance had been complained of, but in which there had been a period of years of perfect freedom from symptoms.

Third.—Those having no record of a gastric disturbance until the sudden development of malignant signs.

In the first group, which includes about fifty per cent. of the cases, it is impossible to tell just when the malignant change takes place, for often in the presence of anorexia, great waste, marked hemorrhage, and advanced cachexia, ulcer may be the only lesion found at operation. These late conditions, however, should never be considered medical, and in a competent surgeon's hand the patient should get relief even though the diagnosis be at fault.

In the second and third groups, the diagnosis is usually more frequently made than in the first group; cancer developing on latent ulcer is common, and probably causes symptoms to appear only after great invasion has taken place and the patient presents himself in such a condition that only palliative measures can be recommended. The latest statistics from the pathological laboratory in St. Mary's Hospital, at Rochester, showed that seventy-one per cent. of the cancers of the stomach had developed upon an ulcer base. It is usual to find cachexia, great loss of strength and wasting, weakness, loss of appetite, a marked distaste for food, pain, tumor, foul vomitus containing food and blood, and usually absence of free HCl.

The general picture presented by a patient in this condition has been ably described by Graham: "Wasting and weakness are complaints, and lack of appetite fails to account for all. The picture of cachexia is present, and bears little relation to the wasted appearance of ulcer starvation. Depression seems to be an early sign. The facial expression is significant with pallor about the eyes, nose and mouth, and a drawn pinched look. There is a silent fear with apprehension of grave trouble. This, with depression of spirits, tardy confession of symptoms, slow weakened movements and listlessness, will often leave little doubt as to the presence of cancer."

Pain in cancer is a common symptom, but is not so characteristic as in gall bladder or ulcer. It is epigastric and described as a continuous, dull, boring, sickening feeling, rather than a distinct pain, and not bearing the same relation to or controlled by food, as is common in ulcer. The patient relies upon careful diet, bland liquids, or abstinence for relief.

Fear of food comes earlier than in ulcer, and a small amount fills the patient and brings a bloated, disagreeable oppression: utter distaste for certain foods, usually red meats, is sometimes an early symptom, utter distaste for foods in general is a com-

mon, later symptom. Nutrition fails early and rapidly. It is common to find a dry skin, and a pinched and wrinkled appearance. This dehydrated condition perhaps explains the fact that often the hemoglobin estimation of the blood of such patients is higher than the wasted pale appearance would warrant.

Vomiting is usually a common symptom; as compared to ulcer it is more irregular and delayed more frequently, abundant, and without effort. The vomitus is rancid, foul, obnoxious, and often contains large quantities of macerated food and blood, bright red or coffee ground in character.

Gas is more distressing than in ulcer, and has a foul, offensive odor as compared to the sour breath of the former.

The bowels are constipated and blood is frequently found in the stools. Tumor is found in about seventy per cent. of cases.

The test meal is of value, but should not be interpreted independently of a carefully developed history.

SUMMARY.

In gall stones the general health does not suffer until complications have arisen. In ulcer the state of health fluctuates with periods of attack and relief, however the patient is hopeful and active in spite of reduced nutrition. In cancer the patient is depressed, weak, tired, languid, and discouraged, pale, and perhaps cachectic. The course is short and steadily downward.

The pain in gall stones is sudden and severe, with radiation from the epigastrium through to back and right arch, of short duration, and abrupt cessation. In ulcer, the pain is clear cut, regular in time and eased by food, to return in from one to four hours later. In cancer, the pain is continuous, of a dull depressing type, and is increased by food.

The vomiting, in gall stones, is not a factor in the diagnosis. It is small in amount, unless the attack should come soon after a meal, and is composed of bitter bile. The vomiting in ulcer is regular with the pain; it is sour, acrid acid in type, not offensive, and gives complete relief. In cancer, the vomiting is delayed and abundant. The vomitus is foul, and contains macerated food and often blood. It brings but partial relief.

Gas is troublesome only during a gall bladder attack. It may be distressing and give sensation of upward pressure, but it disappears immediately on cessation of the cramps. Gas in ulcer

is controlled as the other symptoms are controlled, and is not troublesome. In cancer, gas is continuous and increased in amount by food.

Blood is unusual in gall stones, rather rare in ulcer (about one-fourth of the cases), but common in cancer (about two-thirds of the cases), both by test meal and fecal examination.

In one of his late and admirable papers, Graham concludes, sounding the following warning, which I quote freely:

"The diagnosis of gall stones is met with considerable satisfaction. That of peptic ulcer is perhaps less clearly defined, but rapidly approaching a degree of certainty. Both in gall stones and in ulcer, ignorance, neglect, or wilful delay, find some excuse because the consequences are not so plainly demonstrated, and delay is not so often fatal. The diagnosis of cancer of the stomach is extremely difficult to make in that early stage when surgery, the only means of relief, offers a hope of cure, and when delay is fatal. Ignorance on the part of the physician is unpardonable; neglect almost criminal. The physician's position is harassing, the patient's perilous. Though late in his diagnosis, either because of insufferable circumstances, lack of knowledge, of unpardonable neglect, the internist has met his responsibility, at least in a small measure, when he places his patient with gall stones, ulcer, or suspected gastric cancer in the hands of a competent surgeon, but the surgeon's responsibility does not cease with the exploration or gastroenterostomy alone, because careful resection is necessary when we are in the presence of cancer or in any suspicious ulcerous lesion."

DISCUSSION

DR. MORIARTA.

Mr. President and Gentlemen of the Schenectady County Society:—

I am indeed indebted to you for the privilege of listening to the most interesting and instructive paper by Dr. Guthrie.

The statement of Dr. Guthrie that early diagnosis of gastric cancer is uncertain and practically impossible, admits of no discussion. And as the only relief for this condition is early surgical interference, I cannot state too positively or forcefully the necessity of our formulating our ideas concerning the early symptoms of cancer of the stomach, that we may give the patient the benefit of an early exploratory laparotomy.

I realize that an exploratory laparotomy is ordinarily not ultra-scientific, but when a cancerous condition is suspected early in the disease, I believe it is justifiable.

Dr. Guthrie said nothing in his differential diagnosis of the condition spoken of as hyperchlorhydria. I would be pleased when closing the discussion, if he would give his observations of the course of this condition in cases which were not, or did not come to an operation later.

DR. KATHAN.

Mr. President and Fellow Members:—

I have listened with much pleasure to Dr. Guthrie's most instructive paper. It teaches the important lesson of an early diagnosis of these apparently similar yet varied pathological conditions. These patients come under the observation of the family physician frequently very early and the responsibility of an early diagnosis rests upon him. If the family physician is keen on the differential diagnosis of these mixed symptoms, their surgical significance will be early recognized and the surgeon will have an opportunity to operate at the most favorable period before more dangerous pathological lesions develop.

I have long been impressed with the widely different types of individuals suffering with disease of the upper abdomen. Patients with ulcer have certain physical characteristics which are in marked contrast to those with gallstones. Patients with ulcer are those overworked, underfed, poorly nourished individuals that early become anemic and look almost tubercular. In fact, the same conditions in life that develop tuberculosis in some patients bring about ulcer in others. Ulcer and pulmonary tuberculosis are not infrequently found in the same individual. I believe malnutrition is the most potent etiological factor in the development of ulcer.

On the other hand, gallstone patients present a picture quite the reverse. For the most part, they are well fed, well nourished and carry some adipose tissue with more or less inter-abdominal pressure. They are likely to be farther advanced in years.

Of course these physical characteristics are not sufficient evidence for diagnostic purposes but may frequently aid us in drawing conclusions.

DR. CLOWE.

Mr. President:—

I wish to take issue with the statement of Dr. Kathan. I do not think by any means that fifty per cent. of the cases of gastric ulcer can only be cured by the surgeon and that in consequence we should immediately refer our cases to him.

I think those of us who are practicing internal medicine, so called, can bear witness to the fact that this statement will not hold. I think it can be truthfully said that in acute ulcers practically all of them can be cured to-day by appropriate care and treatment. When we come to consider cases of ulcer of long standing the results are different and although even of these many can be successfully treated yet in this class of cases we are becoming much more willing to refer them to the surgeon. I may say, however, that the careful surgeon will still refuse to operate some of them.

DR. KATHAN—I think the Doctor must have been reading some surgical statistics. I would advise him to read some medical statistics also.

DR. STANTON.

The surgical treatment of gall bladder diseases, as in all other fields of surgery, must depend ultimately upon the dangers of operation and the final results obtained. During the past few weeks, I have had occasion to review the ultimate results in all cases operated by my associate, Dr. McMullen, and myself during the past two and one-half years. During this time, we have operated on forty-three cases as follows:

One cancer of gall bladder, involving pylorus. Died twelve hours after operation. We should not have touched this case, but the character of the lesion was at first not plain and by the time we found out what we were dealing with, we were forced to do a pylorotomy, as well as excising the gall bladder and a portion of the liver.

Forty-two cases of benign gall bladder disease with no operative mortality.

Thirty-one cases of gall stones, of which twenty-six have recently reported themselves as cured. Three still have some pain and discomfort, but are, nevertheless, well pleased with the relief they have obtained, and two, while apparently well, are too recent to judge as final cures.

The twenty-six out of twenty-nine cases, or eighty-nine per cent., are entirely well and none are disappointed in the result.

Eight were cases of cholecystitis and peri-cholecystic adhesions, without stones. Of this group four are well and the others have received little, if any, benefit. One case with very definite symptoms, but no stones, was relieved while the drainage persisted, but the pains have recurred since with jaundice. We should have done a cholecystenterostomy in this case, and will do it later, if we can get the patient's consent.

Three were cases diagnosed as gall bladder disease, but no lesion of the gall bladder was found at operation and the patients were benefited only by the diagnostic knowledge gained by the exploratory operation.

Thus, of forty-two cases of benign gall bladder disease, thirty are entirely cured and five more are either convalescing from operation, or are very greatly improved.

In the Middle West where such men as the Mayos, Murphy, Ochsner, Fenger and their followers have educated the general public and the medical men to a correct understanding of what surgery offers in gall bladder disease and how to diagnose the cases, the general public believes that operations are necessary in this class of cases the same as in this part of the country they believe in the necessity of operation in appendicitis. Here, if one mentions appendicitis to a patient, he or she at once, realizes the necessity of operation, whereas gall-bladder cases are, for the most part, very hard to convince, as to the desirability of operation. Some day I believe conditions here too will be different.

DR. TOWNE.

Mr. Chairman:—

I am beginning to have "cold feet." Various members of the Surgical Society in the discussion have made statements to the effect that it was a simple matter to differentiate between these affections by a careful history of the cases, and that the physical signs are unimportant. I had

always supposed that the physical signs were of great importance in these diagnoses, and I am beginning to wonder if some of the cases of chronic dyspepsia which I have under observation are not suffering with gall-stones and gastric or duodenal ulcer and cancer all at once. As for me I cannot get away from the fact that a careful early history is only one element in the chain of evidence necessary for a differential diagnosis, and that the physical findings are another element in that chain still of importance.

DR. PASHAYAN.

Hyperchlorhydria as a clinical symptom is almost a constant accompaniment of gastric and duodenal ulcers yet it is wrong to conclude that excessive acidity indicated the presence of an ulcer in any of these organs. In neurasthenia and similar states we frequently meet with hyperacidity which promptly disappears with treatment directed to the parent disease and no trace of an ulcer can subsequently be made out.

DR. FAUST.

It can be stated that we have no satisfactory and reliable means of positively diagnosing early malignancy of the stomach save by exploratory laparotomy. Moynihan states that "The chemical examination of the stomach contents is of little or no value in so far as early diagnosis is concerned. In later cases when a possible diagnosis of malignancy is made on the clinical evidence, the results of repeated analysis affords additional evidence of considerable value." John B. Deaver sums up the matter by stating that "Thousands of lives are lost annually owing to the unwillingness to act on suspicion before a diagnosis can be made. In these cases uncertainty is the signal to act rather than delay, and unless this is recognized the holocaust will continue until a means of early diagnosis of malignancy is found. For practical diagnostic purposes, it might be stated that if a patient past middle life begins to lose weight without apparent cause, whether or not a gastric ulcer history be elicited, accompanied by digestive disturbances, with or without pain or tumor, an exploratory laparotomy should be done at once, as this suspicion is all we can hope to have at present to indicate the possibility of early cancer.

DR. GUTHRIE.

The test meal in gastric diagnosis should never be taken independently of a carefully developed clinical history. In a joint paper with Dr. Graham; appearing in *N. Y. Medical Journal*, September 4, 1909, we showed that seventy-five per cent. of the ulcers of the stomach and duodenum operated upon by W. J. Mayo, did not have the high acids, which are commonly thought to be the case, and that in these cases the acids remained within the normal limit. We found a hypersecretion rather than a hyperacidity. In 150 cases of cancer operated upon, seventy or forty-seven per cent. had free HCl. The chemistry of the test meal is misleading. The practical application of the meal is in testing the motor power of the stomach. We regard decided food remnants in the meal as a surgical indication.

The end results of gall bladder surgery are very satisfactory. Letters from over eighty-five per cent. of our cases show them to be cured and enjoying perfect health. One class of cases which are likely to have recurrent attacks are the ones of cholecystitis without stones, the gall bladders containing thick tarry bile and bile sand. Moynihan in a late article strongly advocates the removal of such gall bladders. Drs. Stanton and McMullen are to be congratulated upon their excellent work in surgery of the gall bladder.

The important thing for the man in general practice is to make an early surgical diagnosis. One cannot always differentiate between ulcer or cancer of the stomach and gall bladder disease or even appendicitis—but these are surgical diseases and should have surgical consultation.

ACUTE SUPPURATIVE OTITIS MEDIA.

CAUSE—SYMPTOMS—TREATMENT.

Read before the Medical Society of the County of Oswego, December 14, 1909

BY ARTHUR H. BROWNELL, A. M., M. D.,
Oneonta, N. Y.

Gentlemen of the Otsego County Medical Society:

The programme has left out the word of "acute" but I have seen fit to add it to my topic. I so understood the chairman of the programme committee. Surely the acute form is enough for one man to handle at one sitting. Even with this limitation of the subject, time will permit of only a touching upon the main points.

The subject is one of decided importance; one much neglected by the profession at large; one that involves not only possible loss of hearing, but of life itself; a disease that affects all classes of people but more particularly early childhood. Dr. Dench says "The recognition of the possible seriousness of every ear ache, and the gravity of every acute inflammation of the middle ear, and the necessity of prompt treatment, cannot be too strongly impressed on the general practitioner." Dr. Kerley in the *N. Y. Medical Journal* says "that in his opinion acute otitis media in young children is more often overlooked than any other disease of childhood." He says further, "that no examination of a sick infant should be considered complete until the condition of the middle ear has been determined."

Our programme says the paper is to give cause, symptoms and treatment, therefore I will take them in order.

Dr. E. B. Dench says "Acute middle ear suppuration is invariably caused by the introduction of some pathogenic germ into the tympanic cavity either through the perforated drum, or Eustachian tube. The latter by far the most frequent. "The source of the infection may be, and frequently is, due to the infectious and contagious diseases, scarlet fever, measles, pneumonia, cerebro-spinal meningitis, etc." The otitis may come from the infection finding its way through the Eustachian tube to the middle ear, or to direct toxæmia of the disease itself, or to general exhaustion. The infection may be due also to extension of an inflammation following post-nasal operations. Severe coughing or gagging may force infectious material into the tube.

The insufflation of water into the nose, so often practiced by the laity, and too often prescribed by the doctor, is never safe to use, and is often a cause of middle ear trouble. Seldom is any effort made to make the water sterile and if it was the drawing through the nose would reinfect.

Enlarged tonsils and adenoids are a prolific cause of otitis media, both mechanically and as a nidus for germs. Not only are they a cause, but it is almost impossible to give permanent cure, especially to the chronic form, so long as they remain. Caries of the teeth is often a cause and more often retards recovery of middle ear discharge.

Symptoms: The early recognition of the condition is imperative if there be hope of aborting the trouble. The usual symptoms are sudden and severe pain in the ear attended with high fever (with or without otorrhoea). While the pain is the usual condition of inflammation of the middle ear, in infants acute otitis media is not necessarily associated with earache, and an examination of the drum is necessary to determine the true conditions. The fever is accompanied with reflex symptoms which are sometimes quite severe, convulsions not being uncommon. These reflex symptoms often detract the attention from the real seat of the trouble. Meningitis, pneumonia, gastritis and other acute diseases are suspected rather than the right one, pneumonia being the most frequent mistake.

There are two types of inflammation, one the catarrhal, mild with drum bright, and the level of the exudate seen through it, but little bulging as a rule. Recovery without rupture often.

The purulent type is the most frequent. Here the drum is congested, the redness being at the top and extending down to the

handle of the malleus. Bulging of the membrane comes quickly and spontaneous rupture often occurs, too often being the first sign recognized of the source of the trouble. In some cases complicating scarlatina, the drum looks dead white, which is due to superficial epithelium, but when this is wiped off with a cotton covered probe, the bright red bulging membrane will be seen. A head mirror and ear speculum must be used if even a good guess is to be made. Tenderness on movement of external ear or canal may be present, but tenderness over the mastoid in a simple acute suppuration is unusual. Care must be taken lest the drawing on the external ear may not be mistaken for a tender mastoid. Tinnitus may or may not be present. Hearing is usually impaired. paired.

Treatment: Having determined the conditions what we shall do depends on the stage of the inflammation. If seen early, with leech or knife draw a *good quantity* of blood from *in front* of the tragus. Deplete what your patient will stand. Secure free cartharsis with calomel and saline. Put patient in bed and keep him there. Wash out external auditory canal with large quantity of warm (100 degrees to 110 degrees) sterile water. Use a fountain syringe and have only high enough so that water will run, possibly five or six inches above the head. Use two or more quarts of water. Dry the canal with cotton and then pack the same tightly with gauze saturated with a ten per cent. carbolic in glycerine. The glycerine by its osmotic effect relieves the interior tympanic pressure and the carbolic acid is sedative in action. The application of heat or cold to the outside of ear can be left to the sensations of the patient as to which gives the most relief. Hot applications, hot water bag, or salt bag, are most often acceptable. Cold should not be used after the first forty-eight hours. Poultices are in no way superior to the dry heat and are not advisable as they are apt to make the tissue oedematous. Dry heat with depletion will usually give relief if possible to do so without incision.

Do not give any opiate. It only disguises the conditions and gives false security. If in twenty-four hours all the symptoms are not improved or if the condition has been going on for some days before seen and we find the membrane on inspection to be bulging, free incision should be made at once. A general anesthetic may be needed if patient will stand it. The operation can be done quickly and is possible without an anesthetic. Cocaine is prac-

tically of little use, but perhaps as well to get what good we can from it, if no anesthetic is used. Cocaine, morphine, atropine are sometimes added to the ten per cent. carbolic in glycerine with soothing effect.

For incision: A *very sharp*, slender, long-handled knife should be used. Enter knife just behind the short process and carry upward and inward to bony wall. Bring your incision one-fourth inch in front of tympanum in posterior superior wall, especially if there be any bulging of this wall. If membrane is bulging so outlines cannot be made out, enter knife in most prominent part of bulging. The idea is not always to liberate pus but to give free drainage and prevent formation of pus. Free bleeding should be encouraged with warm water (sterile of course). Antiseptic precautions should be followed all the time. One to five thousand bi-chloride douche should be given in auditory canal before incising. With early incision the pain is almost always immediately relieved and the intensity of the inflammation is diminished.

If there has been spontaneous rupture before patient is seen, or before condition has been recognized, make sure opening is large enough for free drainage, and, if not freely open, enlarge the same. Dr. W. Mulligan says "Free drainage is the first essential in the treatment of suppurative otitis. Were this simple axiom more generally attended to in the acute stage, there would be far less chronic mischief." Watch the openings and if small tufts of granulation should clog them remove with curette or caustics. Touching with iodine is often sufficient to cause the granulations to subside.

After incision and irrigation pack the canal with gauze to keep out outside infection, and to promote drainage. Restrain children, if necessary, but for their own good, insist on keeping the ear clean. Usually after irrigating the ear a time or two the child will appreciate the good gained and the little hurt and submit without trouble. It may be necessary to irrigate each two hours for the first day or two.

The irrigation is to be lessened in frequency as discharge diminishes. Uncomplicated cases should recover in two or three weeks. Keep the nose and throat in as clean a condition as possible with alkaline washes, to my mind glycothymoline being the best. In all contagious diseases guard against your patient blowing the nose with any force and thus driving secretion into the Eustachian tube.

Dr. W. G. Phelps says "no matter how well your patient may feel keep him in bed. It prevents complications."

One of the things we as physicians have to contend with is the erroneous idea that to lance the drum is to destroy the hearing. The danger to hearing is not at all in proportion to benefit gained. The danger of pressure by retained fluid and of extension to surrounding tissue far outweighs any possible danger to hearing. A freely incised drum will often be restored even before it should be for drainage sake.

A child once having this condition is much more liable to a second attack, especially if infection has come from the throat. Therefore remove all tonsils, adenoids and nasal obstructions where any infection might originate. It is often impossible to secure relief from the middle ear inflammation so long as the adenoids remain to obstruct the opening of the Eustachian tube. Dr. Andrews says "Every adenoid child should be operated on, but every one with running ears *must be*, if relief is hoped for."

After the acute symptoms have subsided, it is well to inflate with the Politzer bag.

In scarlatina and measles Dr. M. Sugar claims to prevent ear complications by instilling a few drops of a five per cent. solution of silver nitrate into the nose each second day, less than seven per cent. showing ear trouble with this treatment as against sixteen per cent. without the silver.

The packing of the ear with boracic acid is only spoken of to condemn. A little dusted into the canal is safe, but enough to in any way interfere with drainage must not be used.

Treatment may be summed up as follows: depletion, catharsis, heat, free drainage, cleanliness, together with removal of all infective foci which tend to prolong and reproduce the conditions.

HIGH FREQUENCY ELECTRICITY IN THE TREATMENT OF ADENITIS, PROSTATITIS AND IN LOCAL INFECTIONS.

Read before the Medical Society of the County of Albany, March 16, 1910.

By WILLIAM G. LEWIS, M. D.,

Mr. President, and Members of the Albany County Medical Society:

About five years ago my attention was first attracted to H. F. electricity and so impressed was I by the current developed and

its therapeutic possibilities that I made as thorough a study of the subject as was possible. I found the literature very meagre (most of the work having been done by French and English physicians) and the claims as to results were as a rule so extravagant and so generally unsupported that I decided to install an apparatus and draw my own conclusions. My expectations and hopes have been more than realized in a great variety of pathological conditions; in fact I have been able to cure or benefit many conditions of varying natures that have resisted all other forms of medical treatment and have heretofore been referred to the surgeon for operation as the only means of relief or cure; and have been able to markedly shorten the course of treatment necessary to cure one class of cases, — local infections, at the same time preventing the infection from invading healthy tissues.

The most notable of the former class has been a series of cases of tuberculous adenitis, in none of which have we failed to get a complete cure. By complete cure I mean either a total disappearance of the gland or glands, and this without any scar whatsoever, or else to have remaining — and this has been the case only in those of long standing — a tiny mass of connective tissue.

How are these results brought about? is the natural question that will suggest itself. By means of the H. F. current we are able to produce at any point of the body that can be reached by an electrode, an hyperaemia that is absolutely within our control and which persists after the treatment anywhere from one to twenty-four hours or longer, according to the conditions. This hyperaemia can be controlled to such a nicety that it can be limited to an area one quarter inch in diameter or extended all over the body. It is needless for me here to recite the advantages of hyperaemia as a therapeutic aid especially in infections and inflammations or to discuss the relative merits of the different theories propounded, but whether because of the leucocytosis or the production of the anti bodies, the effects are decided. But the effects of a H. F. hyperaemia are far more potent than that of hyperaemia produced in any other way and this is without doubt due to an as yet unexplained electrical action of a germicidal nature. Remember, we are dealing with a current of enormous voltage — anywhere from 200,000 to 1,000,000 — but very low amperage; and there are many things about electricity in general that are yet awaiting full explanation. But however little or much we know of electricity in general we are absolutely safe and

sure in saying that the H. F. current as used therapeutically is absolutely harmless in careful hands and the statement of the first French investigators that it "makes for constructive metabolism" is abundantly proven by the feeling of well-being that patients invariably report after only a few treatments and the apparent improvement in the general condition.

There are several types of apparatus for developing the H. F. current: from a modified Rhumkorff coil, from a static machine or by means of a step-up-transformer. From one of these the current is passed to condensers and from the condensers led to a Tesla coil or some of its modifications, for it is to Tesla that we are indebted for the H. F. current as we are to d'Arsonval for its first therapeutic application. The Tesla coil is one consisting, as does the Rhumkorff coil, of primary and secondary windings, but with the difference that the primary of the Tesla has no core; but this has been modified by many makers and most of the apparatus is made in the form of a continuous spiral, first the heavier wire, the primary, which is connected to the condensers at either end and continuing from this is the secondary of a finer wire, to the point of discharge. In my office I use a modification of the Rhumkorff coil in connection with a H. F. resonator of the spiral type and find it best for general work. For treating cases out of the office I use a coil of the step-up-transformer type because of its portability but prefer to use the office installation whenever possible.

The result in one of the first cases I treated with the H. F. current encouraged me greatly in the belief that my confidence in this form of treatment was justified. Mrs. C. C., 35, had for two years been suffering from an "inflammation of the articulation of the jaw," it being impossible for her to open her mouth more than one quarter inch. During this time she had been living on a liquid diet and had been treated by three physicians, and had used most of the usual remedies including Tr. Iodine, Emp. Cantharides to the point of vesication and moist and dry heat. Examination revealed great tenderness at right articulation of jaw, slight swelling with pains shooting up and down. Between June 20th and July 15th, I treated this case ten times with the H. F. electricity, noting a steady improvement after the second treatment. After the tenth treatment I lost track of her but at that time the improvement had been so marked that I had no doubt as to the ultimate outcome. In December, at my request she came to the

office and I saw that she had perfect use of her jaw and measurement showed one and one-half inch space between teeth when mouth was opened. This case was probably of rheumatic origin; the chief interest lies in the fact that after having resisted practically all other forms of treatment for two years we succeeded in getting a positive result in twenty-five days. Dr. Wansboro saw this case before and after it had been treated. Since treating this case four years ago I have secured positive results in a number of other cases involving the synovial membranes which I hope to report at a later time.

One of the first cases of tuberculous adenitis I treated with the H. F. current was a young lady who had spent the previous two years in the Adirondacks suffering with pulmonary tuberculosis. There were three enlarged glands on the right side of neck and chains of innumerable small ones, extending from just back of the ear to the clavicle. Dr. Baldwin of Saranac Lake had advised extirpation to be followed by a course of Tuberculin. These glands had been in evidence for many months and it was stated to the patient at the time that the course of treatment would probably be an extended one. After a few months we had the great satisfaction of noting that all the smaller glands had disappeared and the larger ones had been greatly reduced in size; these larger glands have never entirely disappeared and are now palpable and about as large as peas. She has had no treatment in over a year; the remains of the glands, probably connective tissue, have remained quiescent in spite of the fact that there is still some activity in the lungs and the sputum shows the bacilli.

Mrs. X., who had had pulmonary tuberculosis and had spent a year at Saranac Lake, presented herself, with a single glandular swelling at the angle of jaw. After a few treatments she, with my consent, consulted Dr. H. C. Gordinier of Troy, who confirmed the diagnosis of tuberculous adenitis but advised immediate extirpation. We discussed the case and decided to continue the H. F. treatments and watch conditions. At the end of the tenth week the gland had entirely disappeared and the patient was discharged. I saw this patient about a week ago and there is no evidence of glandular enlargement.

A. E., age fifteen years, referred to me for treatment by Dr. John Gutmann. In this case there was a mass of tuberculous glands two inches in diameter and about half an inch thick; supuration had taken place and the mass was firmly adherent to the surrounding tissues. The abscess cavity had been opened and was

draining freely. To this mass I applied the H. F. current and after fifteen treatments the mass had entirely disappeared and the wound had healed with very slight scar.

Mrs. F., age twenty-four, referred by Dr. Gutmann. This case is similar in every respect to the foregoing one with the difference that the patient is older and a longer course of treatment will be necessary as I find that children respond to this form of treatment more quickly than adults. After four weeks treatment this case shows a great decrease in the size of the mass, suppuration has ceased and promises as perfect a cure as we secured in the other case reported.

In addition to these cases I have treated over twenty other cases of adenitis and all, whatever was the causative factor, have responded to this form of treatment. As a result of my observations on the effect of the H. F. current on enlarged glands of whatever type I feel justified in advising its use in all cases after the ordinary means of treatment have been exhausted and before resorting to a radical operation, for though in some rare cases the course of treatment may be an extended one, the results will be positive and will effect not only the superficial, palpable glands, but the underlying ones as well; and we would have no disfiguring scar to deal with.

A case of chancroid that I had treated with nitric acid was followed after two weeks by an enlargement of one of the inguinal glands. When my attention was first called to this condition by the patient the gland was about the size of a walnut and showing a tendency to soften. Realizing the almost universal tendency of the bubo to suppurate, before instituting treatment I insisted on an absolute promise from the patient to report daily for two reasons: Firstly, so that the treatment could be vigorously pursued and secondly, so that if suppuration did occur we could at once open and drain. This Bubo never showed the slightest sign of suppurating but on the contrary began to decrease in size and after seventeen treatments in as many days there was no vestige of it remaining.

On February 15th last I was asked by Dr. Jas. N. Vander Veer to see W. C., who had a bubo complicating a mixed infection. The gland was as large as half a good sized egg, inflamed and exquisitely tender; the lightest touch was hardly bearable and it was with difficulty that he could bear the light touch of the electrode. At the second treatment the tenderness had markedly diminished and it had reduced perceptibly in size. Five treat-

ments in as many days produced a decided change in the condition and all danger of suppuration was gone. Thereafter I treated him every second day and after the ninth treatment the enlargement had entirely disappeared. I regret the fact that my records show but two cases of this kind, but human nature being as it is and there being no regulation in this town or State for certain kinds of traffic, more bubos will of necessity develop and it may be my good fortune — and I hope too the good fortune of the afflicted — that some of them may fall under my electrode.

The condition in which I have obtained the most striking results has been in local infections; and the manner and rapidity in which these clear up under the H. F. current is nothing less than marvelous. I cannot do better than to report in detail a few of the cases I have treated.

A. W., a grocer had scratched his hand on a nail a few days before consulting me. His arm from wrist to shoulder was red and swollen, pain on motion, which was very limited; axillary glands enlarged and tender. I treated the whole arm with the H. F. current and bandaged it with plain gauze to prevent his making any application to it. After three treatments in as many days I discharged him cured.

M. F. had fallen four days before I saw her, sustaining a slight cut on the elbow; when I was consulted the whole arm was swollen and inflamed, motion at elbow nil and great pain on attempting motion; headache, temperature 101, pulse 96. Axillary glands enlarged and very tender. This was in the evening. Treated her that evening, again the next morning and again that evening and discharged her cured, with normal temperature, no pain or swelling and complete restoration of function.

J. B., a worker in a bottling establishment presented himself, with a hand swollen to twice its natural size, red and oedematous. Seven days before he had cut his finger and had given it no attention; the night before I saw him the hand had begun to pain and swell and he came for relief. Some time before this I had spoken to Dr. Edgar Vander Veer about some of the results I had been getting in infections and bethought myself to let him see this case before beginning treatment and thus either shake or justify his skepticism. He saw the case and expressed the opinion that it was a severe one and under the *usual* treatment should get better in from two to three weeks, adding that he doubted if H. F. would do the case any good. I treated this hand twice that day and twice daily for the three following days at the end of which time

—three and a half days — I instructed the patient to go to Dr. Vander Veer's office to let him see the cure. The swelling had disappeared, no pain, axillary glands normal and complete restoration of function. In fact, I learned later that he had worked in the shop the day before.

F. G. Nine years before this patient had been operated on for a ruptured kidney; at operation it was disclosed that the patient had a horse-shoe kidney and as a result of this condition a sinus persisted, opening posteriorly. Through this sinus came urine and pus, the pus to such an amount and of such a nature that it was necessary to irrigate two or three times daily. From time to time efforts had been made to clear this sinus of its pus-producing organism with only indifferent success and it had never remained free from pus for over forty-eight hours. Under treatment with the H. F. current it cleared up in three days and remained free from pus from March, 1908 until August, 1909, when I lost track of him. In the beginning I treated this case three times a week but later every week or ten days. I asked him many times to lengthen the interval to two or three weeks, desiring to learn how long the sinus would remain clean without any treatment but at the end of seven or eight days he would come to the office giving as his reason that he always felt so much better and slept so much better after a treatment.

(From Dr. J. N. Vander Veer I have learned that the discharge coming from this sinus at the present time — seven months after the last H. F. treatment — is composed of urine and a clear serous fluid.)

In addition to the four cases here reported I have records of twenty-six other cases of infections of various parts of the body of varying degree of intensity and in each and every case the results have been as striking as in those here reported in detail. And in all the cases that have been accompanied by suppurating wounds, the wounds have healed more quickly than under the usual methods.

Of prostatitis I wish to say a few words only. I have treated a total of twelve cases following specific infection. In three I was forced to discontinue treatment because of specific re-infection; they were of the class of men who want to eat their cake and have it too and I told them that it was a waste of their time and mine to attempt a cure. In all the other cases I secured a cure. One of these cases that had resisted all other forms of treatment

for five years was discharged in three and a half months and the others, of shorter standing, required shorter courses of treatment.

Before concluding, I want to report a case of senile hypertrophy of the prostate. S. J., eighty years old. For four months it had been necessary to catheterize this patient daily and for three weeks previous to my taking charge it had been necessary for the surgeon—Dr. A. H. Traver—to use a metal catheter with prostatic curve one or twice daily. Patient was greatly enfeebled, showed emaciation and a decided senile tremor. Cystitis was present. In March, 1909, I began treating him daily with the H. F. current per rectum. Three weeks after the first treatment we were able to pass with no difficulty a linen catheter with Mercier curve, and three weeks after that—and ever since—he has been catheterizing himself, using a straight soft rubber catheter. What is of equal interest, and shows the remote effects for good of this form of electricity, during the spring the senile tremor disappeared entirely; and since last summer his general health has been as good as is possible for a man of his years. There has been no symptom of cystitis for over ten months.

It is my opinion, based on an experience extending over four years, during which I have treated a great variety of cases not mentioned herein, that high frequency electricity as a therapeutic agent has come to stay, and I have no regret for the time I have devoted to developing it in my own way. As a therapeutic agent it is far more potent than any single agent that is within my knowledge and its possibilities are unlimited. Of the other conditions in which I have used it with marked success, I hope to report to you at some future time.

ANTERIOR POLIOMYELITIS AND ITS TREATMENT BY MUSCLE TRAINING.

By JOHN M. BERRY, M. D.,

Troy, N. Y.,

AND

MISS BERTHA VAN DENBERGH,

Troy, N. Y.

The recent reports of Flexner and Lewis from the Rockefeller Institute have proved the infectious nature of anterior poliomyelitis. It had previously been demonstrated that the disease was of arterial origin and that it was localized in the regions of the spinal cord supplied by the ventral medial branch of the ventral spinal artery.

The infectious agent causes an acute hemorrhagic myelitis with degeneration and rapid destruction of the large ganglion cells: later, after several months or years, the changes which have taken place are very characteristic. The ventral cornu in the affected region is greatly atrophied and the large motor cells are either entirely absent or only a few remain. The affected half of the cord may be considerably smaller than the other. The ventro-lateral column may show slight sclerotic changes chiefly in the pyramidal tract. The corresponding ventral nerve roots are atrophied, and the muscles are wasted and gradually undergo a fatty and sclerotic change.*

The pathological process is characterized therefore, by an inflammation which on subsiding leaves as a result an irreparable anatomical lesion.

The symptoms of anterior poliomyelitis may be grouped into four stages:†

First stage. This is the period of onset with inflammation in the spinal cord and is characterized by constitutional symptoms.

Paralysis may appear in a few hours or days after the first symptoms. The area of paralysis may extend slowly after it is first recognized or its extreme limit may be reached at once. The original paralysis is always greater than that which finally persists. The duration of the first stage is from a few hours to a week.

Second Stage. This is the stationary period in which the inflammation within the cord subsides and the constitutional symptoms cease but the paralysis persists. This stage lasts from a week to a month.

Third Stage. This is the period of partial recovery. The muscles which were paralyzed because of the secondary congestion and exudation about the local myelitis recover their power in whole or in part while the muscles supplied from the area in the cord in which the nerve cells have been destroyed waste away. At this time the contractions and distortions in the paralyzed limbs appear. The duration of this stage is from one to six months.

Fourth Stage. This marks the period of chronicity during which the ultimate changes due to the retardation of growth and the unbalancing of the mechanical equilibrium of the body manifest themselves.

*Osler, "Practice of Medicine." †Whitman, "Orthopedic Surgery."

To Illustrate Dr. Berry's and Miss Vanden Bergh's Article on "Anterior Poliomyelitis and its Treatment by Muscle Training"

Albany Medical Annals, April, 1910



Fig. 1

Exercise for hip joint and whole leg. The child's legs are called horses and he is making them gallop to a fire.



Fig. 2.

Exercise for hip joint and whole leg. The horses are trotting home from the fire.



Fig. 3.

Exercise for thigh and leg extension and flexion. The horse walks into his stall and backs out.



Fig. 4.

An exercise for thigh extension. The horse jumping or stepping high over a fence.

To Illustrate Dr. Berry's and Miss Vanden Bergh's Article on "Anterior Poliomyelitis and its Treatment by Muscle Training"

Albany Medical Annals, April, 1910



Fig. 5.

Exercise for extension of leg. The horse is kicking.



Fig. 6.

Exercises for rolling inward and outward of thigh. Horse stands up and then lies down first on one side, then on the other.



Fig. 7.

Exercises for adductors and abductors of thigh. Horses stray away from each other and are then brought together into the stable.



Fig. 8.

Exercises for feet and toes. Horses' heads are made to turn first one way and then the other. Toes are called mice in the manger and are made to run in and out by wiggling them.



To illustrate Dr. Berry's and Miss Vanden Bergh's Article on "Anterior Poliomyelitis
and its Treatment by Muscle Training"

Albany Medical Annals, April, 1910



Fig. 9.

Creeping. Legs are horses and they must walk straight and step high (lifting knees). Put a book on the floor to represent a hill. This is a most useful form of exercise.



Fig. 10.

Walking. The most important exercise of all and the one to which all the previous exercises have led up.



Whitman also states that: "The sensation of the paralyzed part is not affected except in extreme cases. The temperature is lower from the first. In many instances the limb is not only cold, but it is congested and blue. These circulatory disturbances are caused primarily by the interference with the vasomotor system, but they are confirmed later by the atrophy of the muscles and by the permanent contraction of the blood vessels." In general it can be said that the amount of impairment of circulation as well as the retardation of growth corresponds to the degree of the paralysis.

The treatment of the acute stage of anterior poliomyelitis is symptomatic combined with rest in bed and measures to relieve the congestion of the spinal cord. Some authorities advocate keeping the patient in bed six weeks and more.

As the acute symptoms subside, attention is directed to the paralyzed area and measures are taken to maintain the nutrition of the muscles and prevent deformity. The nutrition of the muscles is maintained by massage. Muscle beating, hot air baths, electricity in various forms, etc.: each method or combination of methods having its more or less enthusiastic supporters. Deformity should be prevented at this time by daily passive movements of the joints to their physiological limits in all directions, later when the patients attempt to use their limbs deformities must be prevented by mechanical treatment.

Whitman sums up the principles of mechanical treatment as follows: "To prevent deformity due to weakness and to utilize the muscular power that remains so that the disabled member may carry out its function."

When, through the use of mechanical support, a disabled member is capable of functioning a great advance has been made; but treatment should not stop at this point. Only too often the fitting of the patient with braces ends the attempts at treatment when in reality mechanical support should be only an adjunct to or preliminary to muscle training.

When a patient begins to use his limbs he naturally makes the motions which are the easiest for him. The action of the stronger muscles predominate and the muscles with only a small amount of power remaining are not only not used but are constantly stretched and strained. As a result the weakened muscles tend to atrophy and degenerate still more and in a short time awkward and vicious habits of action are formed.

The object of muscle training is to develop and increase the efficiency of the partially paralyzed muscles thereby increasing the efficiency of the limb as a whole and at the same time preventing or improving the awkward and vicious habits of action.

There is nothing new in the use of muscle training in cases of anterior poliomyelitis. Probably Miss Colby at the Children's Hospital in Boston has done as much to show the importance of this line of work as anyone in this country. The object of this paper is to call attention to the value of muscle training and to illustrate the method of its application.

One of the first essentials in work of this character is to get the confidence and cooperation of the patient. The patients, most of whom are children, may be sensitive. They may be humiliated by their awkward attempts to use the limbs and they do not trust their own powers; on the other hand they may be apathetic and not care to exert themselves. At the same time the parents or friends of the patient may be apathetic and fail to encourage and instruct the patients as they should. The long course of the disease has made them discouraged and they lose hope that the patients will ever be any better.

The best results can undoubtedly be obtained in cases where treatment can be started early, *i. e.*, before mechanical treatment has been attempted, but surprisingly good results can sometimes be obtained in cases of long standing that had previously been considered as beyond further improvement.

It is an established fact that voluntary movements, be they ever so slight, are of much more benefit in maintaining and building up nutrition in a muscle than is passive motion, electricity or even massage. Electricity is probably more widely used in the treatment of anterior poliomyelitis than any other therapeutic agent. It is of undoubted great value in maintaining the nutrition in muscles that are temporarily paralyzed, but as soon as a muscle regains any of its voluntary activity there can be no question as to the greater efficacy of voluntary movements in maintaining and developing nutrition. Light massage, gentle manipulation and light percussion are very stimulating to the growth of muscle and are usually much more agreeable to the patient than the use of electricity. Heavy massage, manipulation or percussion, however, are detrimental and cause the weakened muscles to atrophy still more.

In the treatment of our cases we use light massage, gentle manipulation and light percussion to improve the circulation and

muscle tone but especial stress is laid upon training the patient to make voluntary movements.

Sometimes it is found that the muscle power necessary to a certain movement is present but the patient is unable to make the movement because he does not know how. For example: power of voluntary movement may be present in the extensor muscles of the leg and some little contractile power may be present in the flexor muscle, but the patient, by disuse, has lost voluntary control. When the patient is instructed to flex the leg the nervous impulse generated causes instead an extension of the leg. In such a case the patient has to be assisted in the movement and after a time the association path in the brain will be re-established. Resisted movements are sometimes found to bring out more voluntary control by the patient and are always excellent strength builders. Sometimes when a certain voluntary movement is absent in one limb but is present in the opposite limb it can be developed by instructing the patient to try and make the movement with both limbs. In such a case the nervous impulse seems to extend over into the paralyzed limb and cause the movement which would be impossible if the effect was made with the weakened limb alone.

The muscle training must be of such a nature as to secure the interest and cooperation of the patient. Most of the patients are small children and the exercises are given in the form of gymnastic play; the legs may be called little horses, the arms, birds' wings, etc. Angular movements are given the preference because of the usually relaxed condition of the joints. The children are trained to do the various exercises carefully and correctly and with the limbs held in as correct a position as possible.

The variety of exercises and the ways of interesting the children are almost infinite, but the accompanying photographs of a case of anterior poliomyelitis in which both legs are involved serves to illustrate some of the ways in which the exercises may be given and the interest of the child aroused.

In giving the exercises of muscle training it is very important not to overtire the small patients. Twenty minutes to half an hour every day or three times a week is time enough to spend with any child. The instructor should plan to stop each day's work when a small gain has been made so that the child will get the idea he is improving and not get discouraged by fatigue and failure. It is sometimes surprising how sensitive the little patients are to failure and how quickly they get a desire to improve.

Clinical and Pathological Notes

A Lithopedion Thirty-five Years Old Reported by JAMES N. VANDER VEER, M. D. and CHARLES P. McCABE, M. D.

Mrs. M. G. R., aged sixty-five years, died on September 30, 1909, following an organic heart lesion, and had given a history as follows:

She became pregnant in August, 1874, and the day of her expected confinement was May or June of 1875. Within the week that her expected confinement was to take place she suffered from labor pains in a perfectly normal manner, and summoned her family physician at that time. He came and attended her the whole night through while the pains continued. But there was no presentation of any part, and so far as could be learned from the patient, the physician could not make out that the cervix was enlarging as it should. The following morning the pains ceased and since that time she had not suffered in any appreciable manner, until her later years, from what she supposed to be a false labor. No child was born. The patient had had one living child three years prior to this pregnancy and three years after this pregnancy she became pregnant once more and, within the normal period, was delivered of a living child, a girl now thirty-two years old.

In the interim, to 1909, she suffered no inconvenience whatsoever, except occasionally a bunch would present itself in her abdomen, which could be moved from side to side, but which, by choice, seemed to lie on the left side.

In June, 1907, she had an attack of grippe and pneumonia while in a nearby town, at which time Dr. McCabe attended her, and since that time she suffered from an organic heart lesion due to the grippe, followed by nephritis, and eventually an anasarca and an ascites developed, requiring tapping of her abdomen in the summer of 1908. Shortly after this her legs became markedly edematous, with large ulcerations of the calves of both legs, and general debility rapidly came on. For the last eight months prior to September, 1909, she had been unable to lie in bed, by reason of the kidney complication, and was compelled to sit in a chair during the entire twenty-four hours in order to obtain sufficient breath.

To Illustrate Dr. Vander Veer's and Dr. McCabe's Article on "A Lithopedion
Thirty-five Years Old".

Albany Medical Annals, April, 1910.



Figure 1—Front View.

At the time of autopsy, September, 1909, she weighed about 170 pounds, was five feet two inches in height, and presented marked ulcers on the posterior surface of her legs, especially in the region of the calves, thrombotic in character. Upon opening the abdomen the lithopedion was found free in the left side of the abdominal cavity, with small intestines loosely matted together, and beneath and behind. The omentum was adherent on the anterior surface of the lithopedion, as well as a small bit of the mesentery from the sigmoid. There were multiple adhesions throughout the entire abdominal cavity, but none were found that seemed to have done any particular injury. The left ovary was small and contained numerous cysts, with the fimbriated extremity of the left tube adherent behind and beneath the ovary. The right ovary was sclerosed and hard, containing calcareous deposits in its walls, was cystic in character, and about the size of a horse chestnut. This cyst contained a thick, gelatinous, dark-looking substance resembling clotted blood. The right tube had lost its fimbriated extremity, and its distal end seemed to give the evidence that the foetus had been an extra-uterine pregnancy near the ovary and had made its escape therefrom. The uterus was enlarged, especially in the left horn, and contained a myoma the size of a horse chestnut, which was exceedingly hard to the touch, while a smaller myoma was found in the posterior part of the uterus. The liver was enlarged and fatty, extending four fingers' breadth below the free border. Both common and hepatic ducts were patent. Stomach was quite distended, lying below the umbilicus, as viewed from the incision in the abdominal wall. The gall-bladder contained two irregular-shaped stones the size of small hickory nuts, faceted, but the patient had never given any symptoms of trouble from gall-stones. The right kidney was markedly enlarged, adherent to the liver on its under surface, as well as the right adrenal, and contained about a half-dozen small cysts just beneath its capsule. The ureter apparently was normal and patent throughout. The capsule was stripped with some difficulty from this kidney. The left kidney contained foetal lobulations, with a multiple cystic condition, especially at the lower pole. The capsule was very friable and stripped easily from the organ. The cysts were filled

with a clear, gelatinous material and only one contained a sero-purulent material. The kidney itself was very friable and dark in color. Pelvis seemed to be normal. Ureter normal in size and patent to the bladder. Spleen enlarged and congested to about double normal size, while the substance was exceedingly friable. Appendix lay in normal position, but was greatly atrophied. The heart apparently was dilated and hypertrophied, with about one ounce of free fluid in the pericardium, the majority of hypertrophy being found in the left ventricle, as well as the same being dilated, while the walls were thin and there showed a brown atrophy of the heart muscle. There was extreme arterio-sclerosis of the mitral valve, as well as marked sclerotic patches in the aorta.

Dr. Ordway, of the Bender Laboratory, kindly made the histological examinations of the specimens that were brought to the laboratory, which are appended as follows:

Uterus and Adnexa.—Uterus is slightly and irregularly enlarged. Toward the left cornu there is a rounded tumor mass. On section this is sharply circumscribed, 3x3 c. m. in diameter. Its surface shows interlacing, glistening, fibrous bands, the consistency of which is firmer than the surrounding tissue. The cervical canal is filled with a tenaceous mucous. On scraping this away numerous cysts from .2 to 1 c. m. in diameter are found containing the same material.

Fallopian Tubes.—The right is considerably dilated and it is curved backward and inward, being adherent to the posterior anterior surface of the uterus by firm elongated bands of fibrous adhesions.

Right Ovary.—Is firmly adherent to the tube and is represented by an enlarged mass about 3x5 c. m. in diameter, the surface resembling whitened ovarian tissue, and section discloses a cyst filled with thick, tarry fluid.

Left Tube.—Is much elongated, the distal two-thirds being dilated and adherent to a large cystic mass 10x12 c. m. in diameter. The thin transparent walls contain a clear, somewhat viscid fluid. At the lower pole of this cystic mass is a firm nodule having the size and general appearance of an ovary. The distal extremity of the tube, which in the outer 3 c. m. of its course is firmly adherent to the cystic mass just described, is curved downward and inward and is firmly ad-

To Illustrate Dr. Vander Veer's and Dr. McCabe's Article on "A Lithopedion
Thirty-five Years Old".

Albany Medical Annals, April, 1910.

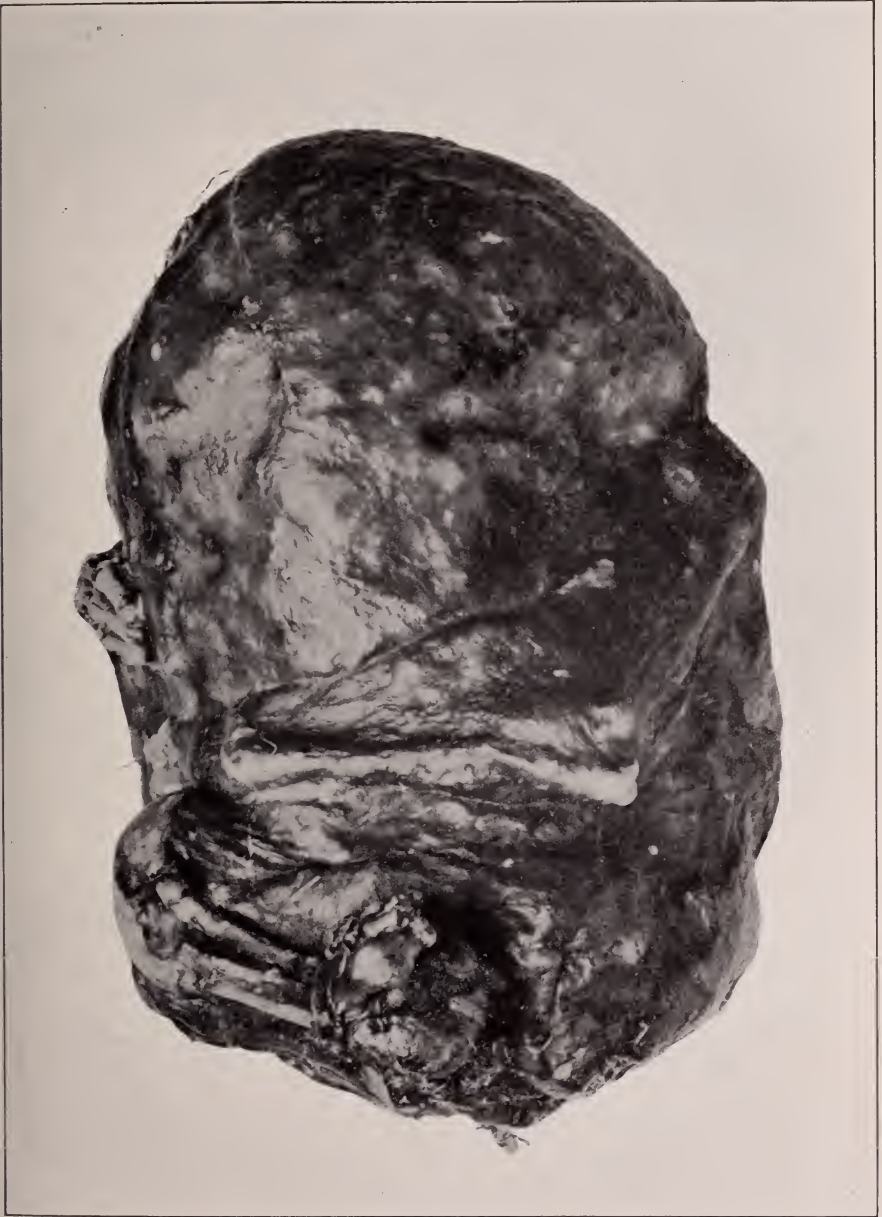


Figure 2--Left Side.

herent to the posterior wall of the uterus near the cervix, in a manner similar to the right tube.

Kidneys.—Slightly larger than normal. Capsules have apparently been stripped in places, leaving a granular surface enclosing numerous circular depressions, apparently portions of small cysts. At the lower pole there are numerous cysts, some protruding slightly, and others markedly, from the surface of the kidney. These contain clear fluid. On section, peripelvic fat seems to be considerably increased. In addition to this kidney there is a small mass resembling kidney tissue, measuring 3x5 c. m. in diameter. On section of this numerous circumscribed areas are disclosed, some having a peculiar whitish color, others transparent. These vary in size from .2 to .5 c. m.

Spleen.—A small, irregular "chunk" of spleen about 6x5 c. m. in diameter. Section of this shows numerous small, sharply-circumscribed areas .1 x .3 c. m. in diameter and of opaque whitish to a transparent appearance. Owing to conditions of the specimen when received, no information can be given as to color, markings, and consistency.

Liver.—Small fragments of tissue 2x1 c. m. resembling liver tissue. On section numerous circumscribed and slightly elongated areas of general opaque whitish color are seen, varying from .3 to 1 c. m. in diameter.

Miscellaneous Specimens.—Another fragment of tissue of a general whitish-gray color, shape of which resembles a large lymph node. Two other specimens consisting of a friable yellowish-white material, irregular in outline, about 5 x 3 c. m. in diameter. This yellowish-white color merges at one end to a brownish-red color. The general appearance, color, and consistency of these two masses resemble post mortem "chicken-fat" clots commonly found in the chambers of the heart. Two small calculi, .5x1 c. m., of greenish-brown color and showing "beechnut-like" facets.

Anatomical Diagnosis.—Chronic pelvic peritonitis, chronic salpingitis, chronic perimetritis, leiomyomata of the uterus, multiple cysts of the cervix, hemorrhagic cyst of right ovary, simple cyst of left broad ligament, hydrosalpinx, chronic ovaritis, fibroid change of myometrium, chronic nephritis, multiple cysts of kidneys, gall-stones.

The peculiar and interesting feature of this case would seem to be the fact that this woman for thirty-odd years carried a foetus within her abdominal cavity, without any untoward symptoms other than those of occasional discomfort, and suffered no marked disease therefrom, while having also a normal child born three years after this extra-uterine pregnancy.

In behalf of Dr. McCabe I wish to put this case on record, in so much as he made the diagnosis when first called to see her in 1907, and obtained from her an acquiescence to the wish that an autopsy be held whenever her death should occur, and be it said in fairness to the patient and her husband that so soon as she had passed away he immediately communicated with the doctor and carried out her desire.

Editorial

If he begins to groan, and the belly feels hot and hard to the touch, you know what to do; get Christophe to help you. If he should happen to grow much excited, and begin to talk a good deal, and even to ramble in his talk, do not be alarmed. It would not be a bad symptom. But send Christophe to the Hospice Cochin. Our doctor, my chum, or I will come and apply Moxas. We had a great consultation this morning while you were asleep. A surgeon, a pupil of Gall's, came, and our house surgeon, and the head physician from the Hôtel Dieu. Those gentlemen considered that the symptoms were very unusual and interesting; the case must be carefully watched, for it throws a light on several obscure and rather important scientific problems. One of the authorities says that if there is more pressure of serum on one or other portion of the brain, it should affect his mental capacities in such and such directions. So if he should talk, notice very carefully what kind of ideas his mind seems to run on; whether memory, or penetration, or the reasoning faculties are exercised; whether sentiments or practical questions fill his thoughts; whether he makes forecasts or dwells on the past; in fact, you must be prepared to give an accurate report of him. It is quite likely that the extravasation fills the whole brain, in which case he will die in the imbecile state in which he is lying now. You cannot tell anything about these mysterious nervous diseases. "Suppose the crash came here," said Bianchon, touching the back of the head, "very strange things have been known to happen; the brain sometimes partially

recovers and death is delayed. Or the congested matter may pass out of the brain altogether, through channels which can only be determined by a post-mortem examination. There is an old man at the Hospital for Incurables, an imbecile patient, in his case the effusion has followed the direction of the spinal cord; he suffers horrid agonies, but he lives."

Old Goriot.

HONORE DE BALZAC.



In the current annual report of the Butler Hospital, of Providence, Rhode Island, Dr. G. Alder Blumer, its Medical Superintendent, writes at length upon a subject which has long interested that large part of the medical profession who have given special study to the treatment of mental disease. Dr. Blumer's long and illustrious career as an officer in both public and private hospitals places him in a position of authority, and what he writes is always convincingly stated. To a medical man no argument would seem to be needed that cases of mental disease should be medically treated, and yet all medical men are not independent of the custom of years that a court procedure is a part of mental therapeutics. In Dr. Blumer's report of a year ago it was pointed out that "nothing had been more apparent to physicians who had practiced their calling in institutions during the past twenty-five years than the general conviction of nervous and mental disorders as disease; that the hospital conception had superseded that of custody and, that happily, it had come about that immediate treatment was generally regarded as of higher obligation than mere documentary forms of law. It was further suggested that too much of our legislation had been based upon the gratuitous assumption of improper motives, as if it were to be expected that cruelty and inhumanity, instead of being the rare exception, should be the normal state of things in civilized society; that no board of trustees and no superintendent could have any motive to connive at an improper commitment, even if such were effected; and that, assuming the possibility of corrupt officials in control, any conspiracy must needs involve many other persons both inside and outside of the institution. The apparently unassailable logic of this position was used at that time to fortify our complacency and self-satisfaction in contemplating the enlight-

ened procedure governing the admission of patients to Butler Hospital, whose treatment is readily available for the sick with the minimum of delay and without the irksome and humiliating necessity of a court hearing. For many years the certificate of two reputable physicians that the patient is insane, together with a request for admission signed by his nearest relative or friend, has met the requirements of the statute. If under that humane provision of law there has ever been a miscarriage of justice; if any other purpose has been fulfilled than the righteous one of securing the blessing of immediate treatment for the sick person needing it, and, incidentally, of sparing him and his suffering, heart-broken family the pains and penalties of a public adjustment in court, then have the trustees and medical officers of Butler Hospital been living in a fool's paradise all these years."

Dr. Blumer then refers to legislation in Rhode Island after the statement of the enlightened and humane policy of the administration of the Butler Hospital, when a bill was introduced which, "had it been enacted into law, would have thrown us back into the dark ages of commitment." This bill provided that in all cases, save admissions by voluntary application, the mental condition of the patient should be passed upon in the District Court * * * and the bill in question provided that the sick person should be haled into court as one *charged* with insanity." Dr. Blumer further indignantly comments: "Unhappily, this archaic procedure, a remnant of distant days when the popular conception of mental disease and its demands as to treatment offered some excuse for its adoption, still disfigures the statute book of Rhode Island as a pre-requisite to admission to the State Hospital in cases where the patient or his family cannot pay the small cost of his maintenance as a private patient." Then follows this remarkable statement of fact: "Almost any day in the Sixth District Court may be seen poor forlorn creatures, whose sole offence is that they cannot furnish four dollars per week, undergoing trial—it is nothing less—for insanity as if disease were crime!" The court formula is "I find you guilty of the charge of insanity," and "a fresh accent is laid on the cruel anachronism by the prompt appearance, not infrequently with handcuffs, of a deputy sheriff, who hustles the victim of this travesty of justice and decency into a patrol wagon for transportation to the State Hospital."

Unhappy Rhode Island! Fortunately for the more opulent the trustees of the Butler Hospital were able to prevent this heaping of indignity upon the sick of the better class, and true to the traditions of humanitarianism which stimulate boards of control of charitable institutions, these high-minded citizens will use their influence to overcome the cruel and unscientific methods applied to the necessitous sick.

The uselessness of legislation governing the management of mental disease is daily growing more apparent. In every State are those who rush to the Legislature to remedy every fancied wrong or to obtain some personal fame. If the laws of the Union were analyzed Rhode Island would not be found an exceptional case. Indeed, not long ago, it was proposed in one State to place the "apparently insane" under the jurisdiction of a State Board. This new disease of "apparent insanity" was not defined in the proposed law, but some State expert might have been found who could pick out the patients going to work mornings. But Rhode Island may be the exception in having within its borders so accomplished and fearless advocate as the Superintendent of the Butler Hospital. The basis of these laws is a feeling of suspicion, and fostering this feeling at times appears to be the policy of those who administer the laws and who nourish the foible of "building up a system." Dr. Blumer shows the absurdity of this when he says, "In a word, it is implied that the medical profession in general and the trustees and medical officers of Butler Hospital in particular were not to be trusted in their efforts to succor the sick and carry out the humane purposes of this institution." No intelligent man, on careful consideration, could doubt this. If he does, let him search the history of the care of the insane, only to find that every advance in treatment and every suggestion for improvement has come from the medical officers of the institutions. In no department of medicine is there a record of greater progress or greater humanity. Curiously enough, however, the proper requirements having been met, its advocates have had transferred to them the doubt and suspicion which were very properly applied to the hap-hazard substitutes and cruelties of no provision at all.

The paths of medicine are in quiet and secluded places. In the privacy of the bed-chamber or in the retreat of the labora-

tory the physician solves the problems of health and life. The glory of his achievements is too often the reward of those who publish the stolen knowledge. The interested observer may safely place his faith in those who do the work, and not in those who comment upon it. The treatment of mental disease may be safely intrusted to the physicians of the hospitals whose lives are consecrated to this service. From Dr. Blumer's peroration there can be no dissent: "There may always be found in any State House some member of pernicious activity 'Wiser in his own conceit than seven men that can render a reason,' and it is sometimes true, even of our own, that 'Wisdom crieth without: she uttereth her voice in the street.'"

Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF HEALTH—ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, FEBRUARY, 1910.

Deaths.

Consumption	23
Typhoid fever	0
Scarlet fever	0
Measles	11
Whooping-cough	0
Diphtheria and croup	2
Grippe	3
Diarrheal diseases	6
Pneumonia	13
Broncho-pneumonia	4
Bright's disease	18
Apoplexy	11
Cancer	10
Accidents and violence	3
Deaths over seventy years	43
Deaths under one year	23
<hr/>	
Total deaths	174
Death rate	22.67
Death rate less non-residents	20.71

Deaths in Institutions, 1910.

	Resident	Non-Resident
Albany Hospital	15	6
Child's Hospital	1	1
County House	0	3
Home for Aged Men.....	1	0
Home for the Friendless.....	1	0
Homeopathic Hospital	5	4
Hospital for Incurables	1	0
House of Good Shepherd.....	1	1
Little Sisters of the Poor.....	1	0
Public places	2	0
St. Frances De Sayles Orphan Asylum.....	9	1
St. Margaret's House.....	3	1
St. Peter's Hospital.....	3	1
	—	—
Total	43	14
Births		94
Still births		6
Premature births		1

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

In the Bureau of Plumbing, Drainage and Ventilation there were one hundred ninety-one inspections of which seventy-nine were of old houses and one hundred twelve of new houses. There were thirty-nine iron drains laid, six connections to street sewers, five tile drains, forty-six cesspools, eighty-two wash basins, eighty sinks, seventy bath tubs, sixty-five washtrays, one hundred two tank closets. There were forty-seven permits issued of which thirty-four were for plumbing and thirteen for building purposes. There were eighteen plans submitted of which twelve were of old buildings and six of new buildings. Thirty-four houses were tested, five with blue or red and twenty-nine water tests. Twenty-eight houses were examined and eighty were re-examined. Six complaints were found to be valid and twenty-two without cause.

BUREAU OF CONTAGIOUS DISEASE.

Cases Reported.

Typhoid fever	4
Scarlet fever	15
Diphtheria and croup	14
Chickenpox	13
Measles	212
Whooping-cough	0
Consumption	32
	—
Total	290

Contagious Disease in Relation to Public Schools.

	<i>Reported</i>		<i>Deaths</i>	
	D.	S. F.	D.	S. F.
Public School No. 5.....	2	..	..	..
Public School No. 6.....	1	1	..	..
Public School No. 15.....	1	..	..	..
Public School No. 24.....	..	1	..	..
St. Joseph's Academy	2	..	..	..
St. Patrick's School .....	..	1	..	..
St. Mary's School .....	..	1	..	..

Number of days quarantine for diphtheria:

Longest..... 33 Shortest..... 9 Average..... 16 11/15

Number of days quarantine for scarlet fever:

Longest..... 43 Shortest..... 10 Average..... 26 4/15

Fumigations:

Houses..... 51 Rooms..... 195

Cases of diphtheria reported 14

Cases of diphtheria in which antitoxin was used..... 13

Cases of diphtheria in which antitoxin was not used..... 1

Deaths after use of antitoxin..... 1

Bender Report on Tuberculosis.

<i>Positive</i>	<i>Negative</i>	<i>Failed</i>	<i>Total</i>
13	37	1	51

Tuberculosis.

Living Cases on record February, 1910..... 444

Reported during February, 1910:

By telephone 0

By Bender 2

By card 10

12

Dead cases reported by certificate..... 14

26

47

Dead cases previously reported..... 9

Dead cases not previously reported..... 14

23

Living cases on record March 1, 1910..... 447

Total tuberculosis death certificates filed Febraury, 1910..... 23

BUREAU OF PATHOLOGY.

Bender Laboratory Report on Diphtheria.

Initial positive 10

Initial negative 49

Release positive	14
Release negative	44
Failed	7

Total	171
-----------------	-----

Test of sputum for tuberculosis:

Initial positive	10
Initial negative	49

BUREAU OF MARKETS.

Market re-inspections	164
Public market inspections.....	20
Fish market inspections.....	15
Fish peddlers inspected.....	1
Rendering establishment inspections.....	25
Packing houses inspected.....	3

MISCELLANEOUS.

Mercantile certificates issued to children.....	10
Factory certificates issued to children.....	13
Children's birth records on file.....	23
Number of complaints of nuisances.....	16
Privy vaults	6
Plumbing	8
Other miscellaneous complaints.....	2
Total number of dead animals removed.....	373
Cases assigned to health physicians.....	103
Number of calls made.....	323

Medical News

Edited by Arthur J. Bedell, M. D.

THE ALBANY GUILD FOR THE CARE OF THE SICK—DEPARTMENT OF VISITING NURSING—STATISTICS FOR FEBRUARY, 1910. Number of new cases, 104; *classified as follows*: Dispensary patients receiving home care, 12; district cases reported by health physicians, 8; charity cases reported by other physicians, 34; moderate income patients, 50; old cases still under treatment, 168; total number of cases nursing care during month, 272. *Classification of diseases for the new cases*: Medical, 34; surgical, 10; gynecological, 0; obstetrical under professional care, mothers, 27; infants, 27; eye and ear, 0; skin, 0; throat and nose, 0; dental, 0; contagious diseases in the medical list, 7; removed to hospital, 9; deaths, 5.

Special Obstetrical Department—Number of obstetricians in charge of cases, 4; medical students in attendance, 4; Guild nurses, 4; patients, 2; visits by head obstetrician, 1; visits by attending obstetrician, 5; visits by students, 47; visits by nurses, 51; total number of visits for this department, 104.

Visits of Guild Nurses (all departments): Number of visits with nursing treatment, 1,201; for professional supervision of convalescents, 275; total number of visits, 1,476. Cases reported to the Guild by four health physicians and twenty-nine other physicians. Graduate nurses, 8, and pupil nurses, 11, on duty.

Dispensary Report—Number of clinics held, 80; number new patients, 94; number old patients, 406. *Classification of clinics held*: Surgical, 11; nose and throat, 1; eye and ear, 15; dental, 2; lung, 13; nervous, 2; skin and genito-urinary, 7; stomach, 3; medical, 9; children, 8; gynecological, 8.

DRUNKENNESS A DISEASE REQUIRING MEDICAL TREATMENT.—The State Charities Aid Association which is backing the measure has received numerous requests from other cities in the State to make the bill an amendment to the general municipal law instead of an amendment to the New York City charter. It is felt, however, by the Association that it would be wise to try the matter out first in New York City where the problem is larger and more complex than that of any other city and that next year or at some time in the near future an amendment to the law could be secured which would make it apply permissively to all cities of the State. The bill is meeting with unexpected support and there is every likelihood that it will be reported favorably from the Senate Cities Committee where it is now resting, as soon as the Senate actively takes up legislative matter.

ST. PETER'S HOSPITAL REPORT for the year ending September 30, 1909.—Satisfactory progress is noted in all the branches of institution by the present enlargement and new buildings. During the recent campaign \$60,000 was made.

THE AMERICAN JOURNAL OF PHYSIOLOGICAL THERAPEUTICS.—The progress in physiological therapeutics will be published bi-monthly from 72 Madison St., Chicago, Ill. The first volume will appear in the near future.

1910 SKULL.—The students of the Albany Medical College are actively engaged in the preparation of the college book to be known as the "Skull," which is to take the place of and enlarge the scope of the work formerly done by the "Garnet."

W. B. SAUNDERS COMPANY has just issued a new edition of their Illustrated Catalogue. It contains some twenty new books and new editions, besides numerous black-and-white illustrations and two color cuts of special value. It will prove a ready guide to good medical books—such as we all need in our daily work.

THE NEW YORK STATE HOSPITAL FOR THE CARE OF CRIPPLED AND DEFORMED CHILDREN has issued its ninth report for the year ending September 30, 1909. The usual careful detail is evident in the report of the institution, the work of the year is summarized in tables and may be referred to by those interested.

COMMITTEE ON THE INSANE.—The sub-committee on Prevention and Aftercare of Insanity has issued its fourth annual report as a most interesting summary detailing the progress made not only in the hospital care of the insane but the after treatment and oversight of patients discharged from the institution.

CONFERENCE OF THE LOCAL COMMITTEES ON THE PREVENTION OF TUBERCULOSIS of the State Charities Aid Association was held Friday and Saturday, March 18th and 19th, 1910, at Albany, N. Y. The first session was held Friday, March 18th, at 2:30 P. M., Centennial Hall, Lodge and Pine Streets. Hon. Homer Folks, presiding. The subject under discussion was "Discovery and Supervision of Cases in the Home." A paper was read by Hon. Charles C. Duryee, Mayor of Schenectady, on "Enforcement of the Tuberculosis Law." Symposium: "The Physician," by Dr. Henry L. K. Shaw, Albany, N. Y. "The Dispensary," by Dr. H. W. Carey, Troy, N. Y. "The Visiting Nurse," by Miss Anna Lantz, Geneva, N. Y. "Relief," by Miss Ethel Van Benthuyssen, Albany, N. Y. Second session, Friday, March 18th, at 8:30 P. M., Banquet Hall, The Ten Eyck, Prof. George F. Canfield presiding. Topic: "Tuberculosis as a School Problem." Papers were presented by Dr. Oscar H. Rogers, Yonkers, N. Y., on "Teaching the Essential Facts to School Children," Dr. George W. Goler, Rochester, N. Y., on "Medical Inspection of School Children with Respect to the Prevention of Tuberculosis;" Mr. Leonard P. Ayres New York City, on "Open Air Schools for Children Predisposed to Tuberculosis." On Saturday, March 19th, at 10:30 A.M., the third session was held in Centennial Hall, Mr. John A. Kingsbury presiding. Subject: "Institutional Care of Tuberculosis as the Best Means of Prevention and Cure." Dr. John H. Pryor, Buffalo, N. Y., gave a paper on "Advantages of Institutional Care," Drs. Albert H. Garvin, Ray Brook, N. Y., and S. Adolphus Knopf, New York City, on "Advantages of Local Care and Treatment." Dr. Herbert Maxon King, Liberty, N. Y., on "Cost of Institutional Provision." Hon. Eugene H. Porter, State-Commissioner of Health, "The Necessity for State Supervision." The final session was held Saturday, March 19th, at 2:30 P. M. Harmanus Bleecker Hall, Hon. Joseph H. Choate, President of the State Charities Aid Association presiding. Prayer, by Rt. Rev. Thomas M. A. Burke, D. D. "The Forecast and the Prophecy," Hon. Homer Folks, Secretary of the State Charities Aid Association. Hon. Robert W. De Forest, Vice-President of the Russell Sage Foundation, Dr. Simon Flexner, Director Rockefeller Institute for Medical Research; Dr. E. L. Trudeau, Pioneer in the Open Air Treatment in America; Hon. Charles E. Hughes, Governor of New York State; Hon. William Howard Taft, President of the United States; benediction, Rt. Rev. William Crosswell Doane, D. D.

ALBANY HOSPITAL.—In the very near future active work will be started in the erection of a Tuberculosis pavilion for the Albany Hospital to cost \$75,000.

THE NATIONAL ASSOCIATION FOR THE STUDY AND PREVENTION OF TUBERCULOSIS reports that in less than 6% of the public schools of the United States has any instruction been given about tuberculosis. They urge that school children be told methods of prevention in this disease.

A BILL TO ESTABLISH A FARM COLONY for tramps and vagrants is now before the State Legislature and those favoring it show that it has been tried in more than twenty compulsory labor colonies in Germany, and a number in Holland and Switzerland, which have proved that vagrancy can be reduced, that habits of industry can be established, and that reformation of vagrants is possible. The proposed state farm would be an economy rather than expense to the taxpayer. Such colonies abroad have proved themselves largely self-supporting. The cost of a state colony would in itself be no greater than the present expense of treating tramps and vagrants in lock-ups, jails, workhouses and penitentiaries. The indirect saving that would be effected by it is incalculable.

THE MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY held a regular meeting on Wednesday evening, March 16, 1910, at the County Court House, Schenectady. Dr. John Lovett Morse, of Boston, Mass., read a paper on "The Stools in Infancy."

THE MEDICAL SOCIETY OF THE COUNTY OF MONTGOMERY and the AMSTERDAM CITY MEDICAL SOCIETY held a special scientific meeting at "The Barnes," in the city of Amsterdam, Thursday evening, March 24, 1910. This meeting was incidental to the Amsterdam campaign for the prevention of tuberculosis. Dr. Albert H. Garvin read a paper on "The Early Diagnosis of Tuberculosis," followed by a clinic, with demonstration of subjects. A luncheon was served.

THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION will hold its sixty-sixth annual meeting at the New Willard Hotel, Washington, D. C., May 3, 4, 5 and 6th, 1910. The first day session will be part of the Congress of American Physicians and Surgeons. The remaining days will be devoted to the consideration of the strictly neurological side of very important subjects.

THE CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS will hold its seventh triennial session on May 3, 4 and 5, 1910, at the Arlington Hotel, Washington, D. C. It is composed of the members of the following national societies: American Ophthalmological Society, American Otological Society, American Neurological Association, American Gynecological Society, American Dermatological Association, American Laryngological Association, American Surgical Association, American Climatological Society, Association of American Physicians, American Association of Genito-Urinary Surgeons, American Orthopedic Association, American Pediatric Society, American Medico-Psychological Association, American Association of Pathologists and Bacteriologists.

The meetings of the Congress will be held in the Convention Hall of the Arlington Hotel. The Congress will be opened by the President, Dr. Edward L. Trudeau, on Tuesday, May 3, 1910, at 2:30 P. M. "Artificial Immunization" will be considered and papers will be read as fol-

lows: "The Formation of Anti-bodies," by Dr. Ludwig Herkborn, Chicago, Ill.; "The Relation of Anaphylaxis to Immunization," by Dr. Frederick P. Gay, of Boston, Mass.; "Immunization in Non-Bacterial Diseases," by Dr. S. P. Beebe, New York City; "Immunization in Leprosy," by Dr. Walter R. Brinckerhoff, Honolulu, Territory of Hawaii. At 8:00 P. M. President Dr. Edward L. Trudeau will give an address on "The Value of Optimism in Medicine," which will be followed by a reception.

The Associations have appointed speakers as follows, viz:—

American Ophthalmological Society—Dr. Jno. E. Weeks, New York City; Dr. W. H. Wilder, Chicago, Ill.; Dr. George S. Derby, Boston, Mass.

American Otological Society—Dr. B. Alexander Randall, Philadelphia, Pa.; Dr. Henry O. Reik, Baltimore, Md.

American Laryngological Association—Dr. J. W. Gleitsmann, New York City; Dr. H. S. Birkett, Montreal, Canada; Dr. F. C. Cobb, Boston, Mass.; Dr. C. G. Coakley, New York City.

American Climatological Association—Dr. Jas. Alexander Miller, New York City; Dr. Herbert M. King, Liberty, N. Y.

American Neurological Association—Declines to discuss subject assigned "as neither germane nor pertinent to the subject of Neurology."

American Gynecological Society—Dr. J. Whitridge Williams, Baltimore, Md.; Dr. Franklin S. Newell, Boston, Mass., Dr. Edwin B. Cragin, New York City.

American Dermatological Association—Dr. T. G. Gilchrist, Baltimore, Md.; Dr. Martin F. Engman, St. Louis, Mo.

American Surgical Association—Dr. John B. Deaver, Philadelphia, Pa.; Dr. Charles H. Frazier, Philadelphia, Pa.

Association of American Physicians—Dr. J. George Adami, Montreal, Canada; Dr. Mark W. Richardson, Boston, Mass.; Dr. George H. Weaver, Chicago, Ill.; Dr. William H. Park, New York City.

American Association of Genito-Urinary Surgeons—Dr. Louis E. Schmidt, Chicago, Ill.; Dr. Hugh Cabot, Boston, Mass.; Dr. James Geraghty, Baltimore, Md.; Dr. Faxon E. Gardner, New York City.

American Orthopedic Association—Dr. John Ridlon, Chicago, Ill.; Dr. Charles F. Painter, Boston, Mass.

American Pediatric Society—Dr. Charles H. Dunn, Boston, Mass.; Dr. John Howland, New York City; Dr. Isaac Abt, Chicago, Ill.; Dr. Samuel McC. Hamill, Philadelphia, Pa.

American Medico-Psychological Association—Dr. John G. Fitzgerald, Boston, Mass.

American Association of Pathologists and Bacteriologists—Subject assigned for discussion in open session. No speakers appointed.

"Smoker" after 9 P. M.

PERSONALS.—Dr. and Mrs. ALBERT VANDER VEER, who have been wintering in the South, have returned home.

—Dr. LOUIS LE BRUN (A. M. C., '91) has returned from a southern trip.

—Dr. ALVAH H. TRAVER (A. M. C., '98) of Albany has been re-appointed Coroner's physician of Albany County.

—Dr. JOHN F. HEFFERNAN (A. M. C., '01) of Albany was re-appointed coroner's physician of Albany County.

—Dr. CHARLES L. WITBECK (A. M. C., '01) of Cohoes, N. Y., was also re-appointed coroner's physician of Albany County.

—Dr. ROSCOE C. WATERBURY (A. M. C., '05) who has been seriously ill with pneumonia, has entirely recovered and is in active practice.

—Dr. FRANK G. SCHAIBLE (A. M. C., '05) has opened an office at 100 W. 78th Street, New York City. Practice is limited to diseases of the nose and throat.

—Dr. JOHN J. A. LYONS (A. M. C., '08) of 145 Philip Street has been appointed one of the District Physicians of Albany.

—Dr. WILLIAM C. TREDER (A. M. C., '07) formerly of the Syracuse Department of Health, will take Dr. J. F. Faber's practice in Scotia, during the latter's absence from the city.



In Memoriam

OLIVER CALVIN ALEXANDER, M. D.

Oliver Calvin Alexander, M. D., of Albany, N. Y., was born in Little Valley, Pa., March 2, 1831, and terminated a long life, February 9, 1910, having passed his active as well as his declining years in Albany. He studied medicine after the fashion of the day, with Dr. McClay, of Milroy, Pa., and came to Albany Medical College in 1852, graduating in 1854, continuing thereafter to reside in this city. His work was in the general practice of medicine, making a specialty of the diseases of women and children. His tastes as well as his talents were versatile, and he had a fondness for art, in the avocation towards which he acquired a very considerable proficiency, in drawing, painting, sculpture and mechanics. A work of his of very considerable merit has preserved in imperishable marble a basrelief group of the Faculty of the Albany Medical College in 1867, composed of Drs. March, Armsby, McNaughton, Mosher, Townsend and Quackenbush, and it now adorns the College Museum. He also carved many single heads of his friends. This work was his diversion from that of his common professional life.

He also devoted himself to some extent to literature, outside of professional composition, and wrote a very successful piece of fiction, in 1858, entitled "The Hermit of Aleova," which was received by the critics of the time of its production with much praise; now long out of print. A copy of it has a place in the State Library. He furthermore displayed an artistic temperament in musical composition as likewise in the writing of poetry; in varied branches of art he found a certain degree of expression.

He passed through many years in the quiet life of a general practitioner of medicine, retiring from it only as the burden of years came upon him, and passed away having filled out nearly the full round of four score. His son, Dr. W. A. Alexander, a graduate of the Albany Medical College in the class of 1890, survives him as a practitioner of medicine in Schenectady.

F. C. CURTIS.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

The Principles of Bacteriology. A Practical Manual for Students and Physicians. By A. C. ABBOTT, M. D., Professor of Hygiene, University of Pennsylvania. New (8th) edition, thoroughly revised. 12mo, 631 pages, with 100 illustrations, 26 in colors. Cloth, \$2.75 net. Lea & Febiger, Philadelphia and New York, 1909.

The eighth edition of this standard work contains as did the first, the basic principles of bacteriological studies so necessary in the training of students to be independent investigators. New methods of work have been incorporated as they have been found to be of value. The article on infection and immunity has been practically re-written, and stress has been laid upon newer views of phagocytosis. The subjects of opsonins, the preparation of vaccines and the preparation of anti-sera have been reviewed. The new edition is likely to maintain the reputation of "Abbott's Bacteriology" as a class-room and laboratory guide.

A. T. L.

A Text-Book of Diseases of Women. By CHAS. B. PENROSE, M. D., Ph. D., formerly Professor of Gynecology in the University of Pennsylvania. Sixth Revised Edition Octavo of 550 pages, with 225 original illustrations. Half morocco \$5.25 net. Philadelphia and London: W. B. Saunders Company, 1908. Cloth \$3.75 net.

The writer states in the preface of this work that it was prepared for the medical student and that he has attempted to present the best teaching of modern gynecology. In most instances but one plan of treatment for each disease is presented in order "to avoid confusing the student or the physician who consults the book for practical guidance." As a rule all facts of anatomy, physiology and pathology are omitted as they may be found in the general text-books upon these subjects; they are mentioned only when it seems best for the elucidation of the subject under consideration.

In the preface of the present (sixth) edition the writer states that those changes and additions have been made which are rendered necessary by the increase of our knowledge of gynecology.

The plan of the book is as follows, first a presentation of the general causes of diseases of women. This is followed by a chapter on methods of examination. The anatomical arrangement of diseases is adopted, beginning with diseases of the external genitalia, then those of the vagina, perineum, uterus, tubes, ovaries and urinary system. The last five chapters are devoted to the technique of gynecological operations the after-care of patients and results.

To those who are already familiar with this work no further introduction is necessary other than to state that another edition has appeared repre-

senting a revision of the previous one. To others not familiar with the previous editions it may be said that the chief value of the work lies in the presentation of the ideas and practical methods of the writer.

While the anatomical grouping of diseases is the one most frequently followed in gynecological text books it does not give as comprehensive a presentation of the subject as the pathological, for a given injury, infection or new growth may involve several organs or structures. In its limited way, this volume presents the subject of gynecology in an attractive manner; the illustrations for the most part represent what they are intended to show, the index is good and one may readily find the special subject which he wishes to look up.

J. A. S.

Bacterial Food Poisoning. A Concise Exposition of the Etiology, Bacteriology, Pathology, Symptomatology, Prophylaxis, and Treatment of So-called Ptomaine Poisoning. By PROF. DR. A. DIEUDONNE, Munich. Authorized translation, edited, with additions, by Dr. CHARLES FREDERICK BOLDUAN, Bacteriologist, Research Laboratory, Department of Health, City of New York. 8vo, 128 pages. Cloth. Prepaid, \$1.00 net. E. B. Treat & Co., Medical Publishers, 241-243 West 23rd Street, New York.

In this little book is given a very concise and valuable summary of the etiology, bacteriology, pathology, symptomatology, prophylaxis and treatment of so-called ptomaine poisoning.

Poisoning through eating diseased meat is frequently due to bacteria of the colon group, such as the bacillus enteritidis of Gärtner or their products, and the symptoms are frequently very similar to those of typhoid fever. Poisoning from eating meat which has decayed after the death of the animal is usually due to the bacillus proteus or bacillus subtilis. It is especially likely to occur from eating chopped meat, patès, sausages, etc. The symptoms are usually those of acute gastro-enteritis without fever.

The group of meat poisonings characterized by severe nervous symptoms, usually spoken of as "sausage poisoning," is due to the bacillus botulinus and the condition is known as botulismus. The organism is a strict anerobe, and is usually found in connection with foods that have been kept hermetically sealed. Secretory disturbances and symmetrical motor paralysis occur. Poisoning from cheese and ice cream is frequently due, not to tyro-toxicon, but to bacterial contamination. The author constantly emphasizes the value of bacterial as opposed to chemical methods of examining suspected articles of food, and gives methods for examination. Many interesting facts are given regarding outbreaks of food poisoning that have been reported in various localities. The book should prove of value to the physician, who may at any time be confronted with the conditions described.

A. T. L.

Medical Sociology. A Series of Observations Touching upon the Sociology of Health and the Relations of Medicine to Society. By JAMES PETER WARBASE, M. D., Surgeon to the German Hospital; Attending Surgeon to the Seney M. E. Hospital; Member of the American Medical Association, American Association for the Advancement of Science, American Society of Sanitary and Moral Prophylaxis, American Medical Library Association, Ethical Social League, etc. New York and London: D. Appleton and Company, 1909.

This work is made up of observations pertaining to the sociological relations of medicine in all of its various fields of activity. Some of them are long enough to perhaps deserve the name of essays but most of them are merely brief statements of fact and opinion. The majority of them are pregnant with thought and ideas of value in a general consideration of the subject title of the book. Many are reprints of editorials by the author in *The New York State Journal of Medicine* or of addresses or parts of addresses delivered by him before various professional and lay audiences.

The book "is inspired by the belief that the most important knowledge for the individual is that which promotes his physical efficiency and happiness. The knowledge that has the power to contribute the most to these ends is that which helps him to preserve himself in the best state of health." Such medical knowledge concerns deeply both individuals and the public, as there is still much need of an awakening of both the people and the state to these facts, especially as they are apt to consider that the only duty of a physician is to aid in the restoration to health of persons who are already ill and to lose track of the fact that perhaps the most important aspect of modern medicine is the attempt to keep people well, preventative rather than curative. The author has attempted to enlighten the public in regard to much of the work of the modern physician, and at the same time to remind the profession of the possibilities for good which its members possess, especially in view of the present day needs of the public at large.

The book is divided into two parts, the first containing matter of especial interest to the lay reader, and the second that of more particular interest to the medical men who may peruse its pages. There are in all sixty chapters, but many of them are only a page or two in length. Suggestive titles of some of them taken at random are as follows: Public Policy and the Medical Profession; Federal Interest in the Health of the People; Some Medical Aspects of Civilization; The Alcohol Question; The Instruction of the Young in Sexual Hygiene; Sexual Morality and the State; Education and the Health and Efficiency of Girls; Fresh Air; The Evolution of Scientific Knowledge; The Beginnings and Progress of Therapeutics; The Fate of Medicine; The Future Fields of Medical Activity; College Preparation for the Study of Medicine; The Hospital Internship; State and College Medical Examinations; The Medical Expert Witness; The Physician in Politics; The Future of Medicine.

The book is very readable and contains much material worthy of close consideration and afterthought. If the public at large, and especially parents and teachers, knew more of some things which are here clearly set forth as to hygiene and preventative medicine, there would be much less suffering and unhappiness in the world to-day, and much less need for our services as therapeutists. If the members of the profession should take to heart and act upon many of the suggestions which are given in Part II, the practice of medicine would certainly stand on even a higher plane than it does to-day, and many of the misunderstandings between the laity and the profession would be entirely avoided.

The book is worthy of wide circulation and careful reading.

C. K. W., JR.

The Medical Complications, Accidents and Sequels of Typhoid Fever and the Other Exanthemata. By H. A. HARE, M. D., B.Sc., Professor of Therapeutics in the Jefferson Medical College and Physician to the Jefferson College Hospital, Philadelphia, and E. J. G. BEARDSLEY, M. D., L. R. C. P., Philadelphia. With a special chapter on the Mental Disturbances Following Typhoid Fever, by F. X. DERCUM, M. D., Professor of Nervous Diseases in the Jefferson Medical College. Second edition, thoroughly revised and much enlarged. Octavo, 398 pages, with 26 engravings and 2 plates. Cloth, \$3.25, net. Lea & Febiger, Philadelphia and New York, 1909.

This work is a second, much enlarged edition of the well known monograph of the senior author originally published ten years ago. It is the only book devoted solely to the very important part of medical practice of which it treats, subjects necessarily considered only briefly in the many books devoted to medical practice at large. As such it is of great value and that this was appreciated by the profession can be easily seen by a consideration of the very large circulation which the first edition enjoyed.

The new portions of the book are the chapters devoted to the complications and sequels of the exanthematous diseases other than typhoid fever, variola, scarlet fever, measles, chicken-pox, and rubella, and the chapter by Dr. F. X. Dercum on the mental disturbances following typhoid fever.

The text is well written and very full, and it is followed by a good index. The text is full of references to the literature, given in foot-notes, but this feature of the book deserves some criticism. Many important references are entirely omitted, and those which are given are in very many instances incorrect as to date and name of the journal in which the article in question occurs. There is no system apparent for the references, some are given by volume, number and page, some by date only, and some merely by title of work or journal. It would seem that more care should have been taken with this very important feature of a work of this kind.

C. K. W., JR.

ALBANY MEDICAL ANNALS

Original Communications

A CRITICAL ANALYSIS OF A SERIES OF 180 CASES OF ACUTE INTRAPERITONEAL INFECTIONS.

*Read before the Medical Society of the County of Albany,
March 16, 1910.*

By E. MAC. D. STANTON, M. D.,

Schenectady, N. Y.

The study upon which this paper is based was originally undertaken as a critical analysis of the results obtained by my associate, D. C. G. McMullen, and myself in the cases of acute intraperitoneal infection which have been treated by us during the past two years. Primarily this has been a critical study undertaken with the idea of discovering our mistakes in order that we may be able, as far as possible, to avoid the occurrence of similar errors in the future. Therefore, our failures and their causes, as far as we have been able to ascertain them, will receive more than the usual amount of attention in this paper.

During the period under consideration, we have handled all cases of acute intraperitoneal infection according to a definitely systematized plan of treatment, the fundamental objects of which may be summarized under the following heads:

First.—The removal of the infection.

Second.—The removal of the source of the infection.

Third.—The limitation of the spread of the infection.

Fourth.—The reduction of the absorption of toxins from the area of infection.

Fifth.—The preservation of the patient's natural powers of resistance.

Sixth.—The removal of toxic material from the stomach by gastric lavage, when necessary.

First, the removal of the infection.—This is the ideal therapeutic measure, and were it possible to always effectually remove the infection by operative procedures, the treatment of intraperitoneal infections would resolve itself into a simple question of operative technic. There can be no question of the possibility of completely removing the infection in cases of appendicitis, seen while the infection is still confined to the appendix; likewise, it is possible to accomplish this in many cases of pyosalpinx and empyema of the gall bladder. But experience has very definitely shown that in late appendix operations and in salpingitis and empyema of the gall bladder the operator is usually compelled to leave behind an infected field, the management of which is of vital importance.

In our own work, we have made it a rule to operate at once when we believed the infection to be still confined to an offending organ which could be removed. We have also operated at once in most cases when we have felt reasonable certain that the peritoneal infection was less than from twenty-four hours to thirty-six hours old.

Second, the removal of the source of the infection.—This is absolutely essential in cases of gross perforation of the stomach or intestines because in such lesions the constantly increasing mass of infective material escaping into the peritoneal cavity makes the limitation of the area of infection by natural processes practically impossible. Murphy and many others have shown how satisfactory the results may be in this class of cases provided only that the leak be closed during the early stages of the peritoneal infection and a post operative regime be adopted whereby the peritoneum is given the best possible chance to take care of the remaining infection. It is a fact, however, that even as regards the therapeutic possibilities to be derived from removing the source of the infection, we must recognize certain very definite limitations. Thus, after the full development of the peritoneal infection the removal of an infected organ, or even the closure of an intestinal perforation does not in itself produce a cure, for here again the management of the secondarily infected peritoneum remains the most important factor in the treatment. In our own practice we have made it a rule to operate at once, in all cases of intestinal perforation, and as before stated, have made it a rule to remove the offending organ when we are reasonably certain that the peritoneal infection had not existed more

than from twenty-four to thirty-six hours. For reasons which will be given later, the cases with peritoneal infection which had existed more than thirty-six hours were not as a rule operated on during the acute stages of the infection.

Third, the limitation of the spread of the infection.—Only a few year ago, surgeons were wont to look upon the peritoneum as one vast smooth surface over which pyogenic organisms would almost invariably spread, once they had gained access to the cavity, and there can be no questioning the fact that the peritoneum offers, under certain conditions, almost ideal opportunities for the rapid distribution of infective material. However, as we have come to know more of the behavior of the peritoneum, when invaded by micro organisms, we have learned that, if only certain unfavorable conditions be eliminated, the peritoneum with its ally, the omentum, is abundantly able to confine within narrow limits, the vast majority of intraperitoneal infections.

What I want to especially emphasize in this connection is the fact that the distribution of an intraperitoneal infection is, for the most part, dependent upon purely mechanical factors, and that in the absence of peristaltic movements such as are produced by giving food or cathartics by mouth, the tendency of a localized peritonitis to spread beyond its original boundaries is very slight indeed, while, when a condition of peritoneal rest is once obtained, the vast majority of cases of even extensive and severe peritonitis show a rapid localization of the inflammatory process, which either subsides entirely or ends in the formation of a localized abscess. Practically this condition of peritoneal rest is obtained by prohibiting all foods and cathartics by mouth, while at the same time, the thirst is allayed by the use of normal salt enemata, and the pain and restlessness by the use of morphine. Although this method of treatment, has gained its chief renown in connection with the treatment of certain stages of appendicitis, as advocated by Ochsner, the fact must not be lost sight of that its results are equally brilliant in all cases of acute intraperitoneal infection, except possibly the frank perforations of the stomach or intestines. Not only have we used this plan of treatment in all cases not immediately operated, but we have used it as a routine post operative treatment in all cases, whether operated early or late, continuing the same for from forty-eight to seventy-two hours after the operation, or until sufficient time has elapsed for the walling off of drainage tracts and the closure of any

fresh areas of infection which might have resulted from the operative manipulations. In this respect there is no essential difference between the post operative treatment as used in early diffuse peritonitis by Murphy and the Ochsner treatment when applied to post operative cases. The essential thing is that the peritoneal surfaces are allowed to remain at rest.

In addition to the prohibition of food and cathartics by mouth and the use of enemata of normal salt solution, we have kept all patients in the Fowler position and have used every precaution to keep the patient quiet in bed. We have never hesitated to use morphine in sufficient quantity to allay the pain or restlessness.

Under this same heading may be mentioned the avoidance of the spread of the infection during the operative work itself. We have attempted to accomplish this as follows: *Firstly*, by protecting all unsoiled surfaces with gauze pads during the operation; *Secondly*, by limiting the operative manipulations to the simplest possible procedures, always trying to leave the natural barriers, such as limiting adhesions and granulating surfaces as far as possible undisturbed and *Thirdly*, we have uniformly refrained from operating during the acute period of the inflammatory process when we believed that the pathological conditions were such that operative interference could not be undertaken without more or less danger of spreading the infection. Manipulations conducted in an infected area during the acute stage of an inflammatory process often accomplish little except the spread of virulent bacteria and their toxins at a time when the body is least able to take care of such additional burdens. However, after the subsidence of the acute process, conditions become vastly changed, for by this time not only are the technical operative difficulties much less, as a rule, but the individual is now largely immune to the less virulent organisms persisting in the infected area, so that there is very little danger of spreading the infection at this later period.

Fourth, the reduction of the absorption of toxins from the area of infection.—The more alarming clinical manifestations of all infections are due largely to the absorption of the bacterial toxins into the general circulation and just in so far as this absorption can be lessened do we improve the condition of the patient and lessen the danger of the infection. In practice this can be accomplished in two ways: *Firstly*, by the reversal of the direction of the flow of the lymph streams so that the toxins are carried, not

from the site of the infection into the central blood stream, but away from it. This is the chief result accomplished by drainage, and the beneficial effects of efficient drainage, when this can be obtained, are known to all. *Secondly*, we can lessen the toxemia by the production of a stasis in the lymph stream so that the toxins are no longer carried from the area of infection into general circulation, but remained confined within the area of infection. To accomplish this latter object, the one great therapeutic measure at our command is rest. There can be no doubt that in the recent area of radical surgery with its far too frequent attempts to drain under most unfavorable conditions, we have very often lost sight of the fact that the inflammatory processes themselves will very effectually confine the toxins, provided we do not constantly pump these poisons by mechanical means beyond the confines of the inflammatory barriers. For practical purposes we may liken an inflammatory area to a sponge filled with highly toxic material which nature is trying to encapsulate by a zone of infiltration. If the sponge is kept absolutely quiet, the toxic fluids remain in it, but if the inflammatory tissue is subjected to numerous little squeezes, twists and pulls, the highly toxic material is forced into the general circulation. No one, who has not tried to limit the absorption of toxins by treating inflammatory areas as though they were sponges filled with deadly poisons and, therefore avoided squeezing them, can have a correct idea of what an important factor this is. In our experience, the improvement in the pulse and temperature and the general condition of the patient has been just as rapid after the institution of the simple rest treatment as after any operative procedure, and in not a single case has anything occurred to shake our confidence in peritoneal rest as a means of thus limiting the further spread of the infection and reducing the absorption of toxins. Only two cases in the writer's total experiences have shown any exacerbation of peritoneal symptoms after beginning the treatment, and in each case the exacerbation followed gross errors in handling the patient.

The importance of being able, in the great majority of intraperitoneal infection to limit the further spread of the infection and at the same time reduce the absorption of toxins to a safe minimum by simply enforcing peritoneal rest can scarcely be overestimated, for not only does it enable one to almost eliminate the danger of post operative general peritonitis even in cases operated for intraperitoneal infections, but it enables us to choose the

most favorable time for operation. I have already called attention to the fact that once a condition of peritoneal rest is obtained, cases of even extensive peritonitis show a rapid localization of the inflammatory process which either subsides entirely or ends in the formation of a localized abscess, and if we study the inflammatory processes occurring within the peritoneum from a purely pathological view point, we find that they undergo a perfectly definite sequence of changes in which we find three stages of the disease corresponding in clinical experience to periods showing wide difference in operative mortality. During the first stages, we find that if the peritoneal lesions exist at all, they are as yet, not associated with marked alterations of the peritoneum itself, the lesions at this early period being of such a type as to require, if any, only temporary drainage. After the peritoneal infection has existed for more than about thirty-six hours, the peritoneal lesion becomes of such a character as to make the removal of the source of infection no longer in itself curative. No matter what the extent of the peritoneal involvement may be, the peritoneal lesion is at this time essentially a diffuse inflammatory process and the pathological conditions are of such a nature as to make drainage at best difficult and often impossible to accomplish efficiently, so that the lesion of this period is but doubtfully benefited by operation. This may be called the intermediate or diffuse stage of the peritoneal infection. On the other hand, if the peritoneum be kept at rest during the stage of the diffuse inflammation, we find that in the milder cases, the peritonitis has largely disappeared by the eighth or ninth days and at this time, the more severe pus cases no longer present a diffuse undrainable lesion, but in its stead a well defined abscess cavity, the drainage of which, no matter how great the quantity of pus may be, is a simple and satisfactory procedure.

There can be no doubt of the advisability of operative interference previous to the time of the full development of the peritoneal infection, nor is there any doubt of the satisfactory results and low mortality of operative work in the stage of localized abscess formation. Operative interference in the intermediate stage has always been accompanied by a high mortality. This has been proven true in the hands of the most skillful operators and the mortality of the occasional operator who interferes at this time is often little short of appalling. The clinical results of Ochsner and many others now overwhelmingly show that by limiting the further spread of the infection and reducing of the absorption of

toxins to a safe minimum, the vast majority of cases seen during the stage of diffuse intraperitoneal infection can be carried over for operation at a later and more favorable period, when the bacteria and their toxins may be successfully removed by drainage.

Fifth, the preservation of the patient's natural powers of resistance.—Some of the chief means employed to aid nature in her fight have already been mentioned. In order that their powers of resistance should be at their best we have made every effort to keep the patients under the best possible hygienic conditions, as regards good nursing, plenty of fresh air, and the avoidance of all things which might exhaust the vitality of the patient.

Sixth, the removal of toxic material from the stomach.—Many of the alarming symptoms in severe cases of peritonitis are undoubtedly due to the absorption of highly poisonous material from the stomach and duodenum. This has long been recognized as a clinical fact, and the recent experimental investigations of Roger, Maury and others give us additional insight into the peculiarly toxic properties of the stomach contents under certain conditions. Patients whose stomachs are full of toxic material usually have a characteristic facial expression and present the general picture of one on the verge of collapse, all of which is promptly changed for the better by gastric lavage. We have washed the stomach whenever there have been severe nausea or vomiting or when the general conditions seemed to indicate a stomach full of toxic material.

ANALYSIS OF CASES.

In studying the results obtained by the plan of treatment as outlined above, I have included only those cases in which there was no question about the presence within the peritoneal cavity of an active infection, and in thus limiting the cases to those having a pathological diagnosis of an active infection, I have excluded 165 out of a total of 275 cases of appendicitis, and in like manner I have excluded 121 out of a total of 182 cases of pelvic inflammation, and thirty-nine out of forty-two gall bladder cases.

All cases of peritoneal infection from any cause whatever, have been included and in all deaths occurring either as a direct or remote result of the infection are included in the statistics.

During the time since we have been adhering to the above plan

of treatment, we have had under our care in the Ellis and Physicians Hospitals 180 cases of acute intraperitoneal infection divided as follows:

Acute appendicitis	110 cases	5 deaths
Acute pelvic peritonitis	61 cases	No deaths
Perforated empyema of gall bladder	3 cases	No deaths
Perforated duodenal ulcer.....	2 cases	1 death
Typhoid perforation	2 cases	1 death
Puerperal general peritonitis.....	1 case	1 death
Acute hemorrhagic pancreatitis....	1 case	No death

In fifty-one cases of acute appendicitis, the infection was either confined entirely to the appendix or the peritoneal lesion was local in character and did not show the presence of free pus. All of these cases made uneventful post operative recoveries. Thirty-three were operated on during the first forty-eight hours of the attack, six between the third and seventh days and twelve after the eighth day.

Two mild cases of appendicitis were not operated upon, because business interests made it imperative that they have the speediest possible convalescence. One abscess case complicated by pregnancy recovered without operation. She was improving when first seen by us and we thought it better to trust to natural processes rather than to operate and risk a miscarriage with a drainage opening into the abdomen.

Twenty-one cases of perforative appendicitis, two cases of ruptured tubal abscess, one perforated empyema of the gall bladder, one typhoid perforation, one perforated duodenal ulcer, and one case of acute hemorrhagic pancreatitis, making twenty-seven cases in all, were operated during the primary stage of the diffuse peritonitis with three deaths, two in appendix cases and one case of duodenal ulcer. All of these cases were operated within forty hours of the onset of the peritoneal infection and all showed large quantities of free sero purulent fluid in the peritoneal cavity, except the pancreatitis case, in which the fluid was hemorrhagic. The twenty-four cases which recovered convalesced without alarming post operative trouble in any case.

The two fatal cases of appendicitis occurring in this group are worthy of reporting in detail as they represent types of cases which will probably always give trouble to the surgeon. One

was operated on the first day and the other on the second day of the attack.

The fatal case in the first day group was that of an old lady of sixty-three who for some time previous to the attack of appendicitis had had a very irregular intermittent pulse, and who looked like a desperately bad risk from the very first. The appendix in this case was perforated near the caecum and there was a moderate amount of free fluid in the peritoneal cavity. The most noteworthy pathological feature was that of a gangrenous and perforated appendix accompanied by only very slight evidence of reactive inflammatory changes in the remainder of the appendix. This we interpreted at the time of the operation as representing a very low grade of resistance on the part of the patient, which conclusion was subsequently confirmed by the post operative history of the case. The appendix was removed and the abdomen closed without drainage. The patient did well for two days, and then began to develop symptoms of a localized peritonitis with slight infection of the abdominal incision. There was only moderate distention and no vomiting, but the patient died four days after the operation of toxemia and heart failure. Probably we should have drained this case, but the abdominal conditions did not seem to warrant it at the time of the operation, and we thought it better to risk the absence of drainage rather than to subject the patient to the more tedious convalescence of a drainage case.

The fatal case in the second day group is of special interest in so far as it typically represents some of the difficulties which will probably always be encountered and which tax to the utmost the judgment of the surgeon. A child, aged four, had been sick forty-eight hours. At first, there was no evidence of peritonitis, but following the giving of a cathartic, the symptoms of peritonitis promptly developed. On admission, there was slight distention and the lower half of the abdomen was quite rigid with very marked tenderness. The question of the advisability of operating was carefully considered and we decided to operate immediately, because in young children it is very difficult to carry out the rest treatment, the child insisting upon having water to drink, and if this be denied him, it is almost impossible to keep him quiet, in bed. Then too, the mother and all the rest of the relatives usually add their full quota to the difficulty of enforcing what is, at best, a rather strict regime.

Operation disclosed the entire peritoneal cavity filled with sero-purulent fluid except within the region of the appendix where the fluid was of a distinctly purulent character. The peritoneal surfaces were reddened with here and there a few flakes of fibrin, the entire picture being that of a typical second day diffuse peritoneal lesion. The partially gangrenous appendix was removed and a vioform gauze and a rubber tube drain was carried to the head of the caecum and an additional rubber tube drain to the bottom of the pelvis. After the operation, the patient was placed in the Fowler position. There was no immediate shock from the operation, but the patient soon began to develop evidence of a very severe toxemia and in seven hours the temperature had risen to 105 F., the pulse to 180, and there were muscular twitchings and clonic convulsions. The patient died of the toxemia thirteen hours after the operation. This is a case in which the operative manipulations, limited as they were, undoubtedly determined a very marked and fatal increase in the absorption of the toxins. Had this been an adult, we would unhesitatingly have employed the Ochsner treatment.

The duodenal ulcer case, a woman of sixty, was operated on under the diagnosis of strangulated hernia, a large inguinal hernia having become irreducible at the onset of symptoms. A diffuse peritonitis of unknown origin was found and drained through the inguinal ring after reducing the hernia. The condition of the patient did not warrant further search for the cause of the peritonitis. She was put on the routine post operative treatment, and much to our surprise, in forty-eight hours the abdomen was flat and the general condition was excellent. At this time, liquids by mouth were ordered, with the result that within two hours the patient went into a state of collapse and died a few hours later, the autopsy showing a perforated duodenal ulcer.

Only seven cases were operated on during the intermediate stage of the peritoneal infection with four deaths. One, a case of typhoid perforation was moribund when admitted. Six were appendix cases, and four of these six were third day cases with peritoneal symptoms of only about forty-eight hours duration. At operation, these four cases all presented diffuse, seropurulent intraperitoneal lesions with fairly abundant fibrin, and distinct roughening of the peritoneum. Although three of these cases recovered, it is quite probable that the safest procedure would have been to defer operating, according to the method of Ochsner.

The peritoneal symptoms were little, if any, influenced by the operation and drainage, and three of the cases subsequently showed evidence of insufficient drainage by the development of secondary intraperitoneal abscesses which finally opened into the operative drainage tract in two cases, while the third case died on the eighth day following the operation. One of the cases which recovered, developed a metastatic parotitis which considerably delayed the convalescence.

Certain it is that in the writer's experience, similar cases have done better when treated by the Ochsner method until the localization of the peritoneal lesion. Subsidence of temperature, pulse and abdominal symptoms have been just as rapid without the operation and the danger of secondary abscesses, and the possible necessity for a secondary operation has been practically eliminated, by waiting for the stage of localized abscess formation before operating.

A fatal case, operated on the sixth day is of interest, chiefly because of a number of misfortunes which might have been avoided had we used better surgical judgment at several periods during the time the case was under treatment. The history of this case is as follows:

H. T., aged 9, school-girl: Attack began four days before admission, with only moderately severe pain, localized in the right side of the abdomen. The patient vomited once or twice during the first onset of the pains. Forty-eight hours before admission, the pains became very severe, general in character, and the patient vomited frequently from this time until admission. Examination showed a well developed, fairly nourished child, facial expression anxious, temperature 103, pulse 120, chest negative, abdomen level, costal border tympanitic, everywhere rigid and tender.

The physical examination left no doubt as to the presence of a diffuse peritonitis and the history showed it to be at least forty-eight hours, and possibly three or four days old. The patient was put on the Ochsner treatment, and within 36 hours, the temperature was 100 F., with a pulse of 100, there was no vomiting and the general condition was much improved. At this time, the patient was transferred from one ward to another, and immediately following this the pulse rose to 120 and became of very poor quality. Co-incident with this, there was an increase in the abdominal distension and the general condition of the patient became very grave. Two days later the pulse and general condition were somewhat improved, but the abdominal distension was still marked, although rigidity was beginning to be localized to the right lower quadrant. We should have left well enough alone at this time, but, becoming impatient and hoping against our better

judgment that incision and drainage might "relieve tension and lessen the toxemia, we opened the abdomen through a right rectus incision, and found a typical sixth day diffuse lesion, characterized by multiple small foci of pus, with all peritoneal surfaces as far as examined, covered with a sticky, fibrino-purulent exudate. One rubber tube and several gauze wicks were inserted and a large moist boric dressing applied. Except for a slight rise in temperature, eight hours later, the operation caused no appreciable change in the patient's condition and treatment was continued as before the operation. Two days after the operation, the distention began to lessen and the evidences of diffuse peritonitis finally subsided, but symptoms of septic absorption persisted, and although we were certain that a localized abscess or abscesses existed at a point not reached by the drains, the position of the same was not determined during life. The patient finally died the twenty-third day after the operation and autopsy showed a sharply localized deep pelvic abscess, which should have been discovered by rectal examination.

In reviewing this case, the following points stand out prominently: *First*, it is one of only two cases in the writer's experience in which there has been an increase in the peritoneal symptoms after beginning the Ochsner treatment. *Second*, the exacerbation of the peritoneal symptoms in this case followed directly upon moving the patient from one ward to another. In the other of the two cases, it followed turning the patient almost on her abdomen, in order that the nurse might bathe her back. A patient in the condition that this one was, should not have been moved, and it is very probable that the handling of the patient may have spread the infection, or at least have caused an increased absorption. *Third*, the patient was operated upon the sixth day of a diffuse peritonitis and the pathological condition encountered was the typical one of the period, namely, a diffuse, undrainable lesion, characterized by numerous little pus pockets, with all peritoneal surfaces glued together by a sticky fibrino-purulent exudate. The operation accomplished nothing except a transitory increase in the toxemia, and later, when operative interference in all probability would have resulted in saving the case, we were deterred from again opening the abdomen because of the unhealed incision of the first operation. *Fourth*, in spite of the increase of peritoneal symptoms on the fourth day, with a very extensive peritoneal involvement and the unsatisfactory operation, this case lived until the twenty-third day after the operation, by which time the diffuse peritonitis had entirely cleared up, leaving simply a

deep pelvic abscess, the timely recognition and drainage of which would, in all probability, have saved the patient's life.

Ninety-two cases were operated on after the subsidence of the acute symptoms, with one death, due to Ludwig's Angina, which developed after all peritoneal symptoms had subsided. These ninety-two cases, every one of which had earlier shown signs of active peritoneal involvement and at the time of operation presented localized abscesses occurred as follows:

Acute appendicitis	29 with 0 deaths
Acute pelvic peritonitis	59 with 0 deaths
Perforated empyema of gall bladder	2 with 0 deaths
Perforated duodenal ulcer	1 with 0 death
Puerperal general peritonitis	1 death on 16th day

Eleven of the appendix cases were exceptionally severe cases with unmistakable evidences of active peritoneal infection when first seen and the same may be said of the two cases of perforated empyema of the gall bladder, the duodenal ulcer case and the puerperal general peritonitis case and yet the subsidence of the alarming symptoms and the localization of the peritoneal lesion in all but one of these cases was absolutely without incident.

This one case has already been mentioned as one of the two cases in the writer's experience in which there has been an increase in the peritoneal symptoms after beginning the rest treatment. On the fourth day of the attack, and two days after beginning the Ochsner treatment, the patient was turned, almost on her abdomen in order that the nurse might rub her back; this injudicious handling was followed by a sudden severe pain, and, within a few hours, by an increase in all the peritoneal symptoms. However, with this exception, the patient made an uninterrupted convalescence and was operated for an appendiceal abscess on the eighth day of the attack.

The one fatal case in this group is, I believe, worthy of reporting in detail:

The patient was admitted on the sixth day following delivery and on the third day of a general peritonitis. On admission the abdomen was absolutely rigid, the skin was cold and clammy, and the pulse could not be counted at the wrist. The patient was put on the rest treatment, and we fully expected her to die within a few hours. Much to our surprise, she survived the night following admission and was decidedly better the next morning, and continued to improve until the temperature reached normal on the ninth day of the peritoneal infection. We should have

operated at this time but, owing to some difficulty in reaching her relatives, we delayed operation for four days, and, in the meantime, she had developed a left parotitis. We operated on the thirteenth day of the peritoneal infection and drained a well defined abscess containing more than two quarts of pus. The patient died suddenly of asphyxia due to Ludwig's Angina three days after the operation. The abdomen was perfectly flat at this time, all symptoms of an active peritonitis having disappeared.

This case should have been operated as soon as we were sure we had a localized abscess on the eighth or ninth days. Operation at this time would probably have forestalled the development of the metastatic infection.

In conclusion, I would emphasize:

First.—The complete removal of the infection is the ideal procedure.

Second.—Removing the source of the infection and instituting a post operative regime of peritoneal rest (Murphy's method) gives almost ideal results in early cases of peritonitis.

Third.—In our experience we have failed to get good results when we attempted to apply Murphy's method to cases with peritoneal infection of more than forty hours duration.

Fourth.—The most severe intermediate stage cases have given us almost no worry at all when put on the Ochsner treatment.

Fifth.—Once the peritoneum has become infected, peritoneal rest is probably the most valuable single therapeutic means at our command, and should be rigidly enforced whether one operates early or late.

THE RATIONAL TREATMENT OF SO-CALLED INOPERATIVE UTERINE TUMOR.

BY WALTER B. CHASE, M. D.,

Visiting Surgeon Bethany Deaconess Hospital, Consulting Obstetrician and Gynecologist to the Long Island College Hospital, Consulting Gynecologist to the Nassau Hospital, and the Jamaica Hospital, Brooklyn, New York City.

The treatment of uterine cancer, when it has reached the so-called inoperable stage, seems in the vast majority of cases to be limited to the vaginal douche and the internal administration of opiates. These two expedients appear to most practitioners as affording all the relief they are able to bestow upon its un-

fortunate possessor. When it is remembered that reliable statistics of registration areas, show that one woman in eleven dies of cancer, and that after the age of thirty-five the mortality reaches one in nine, the magnitude of its destructive influence and the distress and suffering it occasions stand forth in all their hideous proportions, not taking into account the deaths from this cause which are not correctly reported. It is safe to affirm that no other disease makes its wretched victim so unbearable to herself and her friends, and afflicts such terrible suffering upon her. It seems incomprehensible, when the sympathy and resources of the public are laid under contribution in most other diseases, that these cases should be allowed to go on to irremediable death, without systematic humane effort to administer to their necessity, either in hospitals or homes, save when the possession of ample resources makes such care possible. What can be done for these unfortunates? First, the humane sentiment of every community, if wisely guided, should provide hospitals and care for these neglected cases, as certainly will be done when enlightened public opinion is directed in proper channels. What then in the light of present knowledge, in brief terms, may be accomplished medically or surgically for these cases? First, the use of the thermo-cautery; second, the use of radium; third, the application of the Roentgen ray, and, fourth, daily local aseptic dressings.

The writer believes that the suffering of cancer is due principally to the pressure of the malignant growth on incarcerated nerve structures and to the want of cleanliness of ulcerating surfaces, and that relief comes from the removal of all diseased structure compatible with the anatomical relations of the diseased and healthy structures, and persistent cleansing of ulcerating areas.

The objection to strong escharotics in the treatment of cervical or corporeal cancer is, first, the impossibility of limiting their corrosive action, and second, the atrocious and persistent suffering occasioned. It is in this connection that the use of a thermo-cautery is of the highest value.

First, if used, as it should be, under aresthesia, there is commonly little or no succeeding pain.

Second, through heat on the parts invaded by the disease, short of actual disintegration, there is evident inhibition if not destruction of pathogenic germs.

Third, the absorbent vessels are effectively closed.

Fourth, the systemic infection is usually diminished — sometimes disappearing for a longer or shorter period of time, and

Fifth, in occasional cases (more often of cervical cancer) unexpected recovery has followed its use.

The statistics of the late Dr. John Byrne, of Brooklyn, show that in 367 cases of uterine cancer (not selected cases) operated on by the thermo-cautery, at the end of five years over 19 per cent. were yet alive — unequaled, it is believed, by the statistics of any other operator by any other method, even in selected cases. The writer's results are equally satisfactory. An added value of this form of treatment resides largely in the fact that it can be reapplied from time to time as is deemed expedient. Cases of this class, followed by daily dressing with oxyd-zinc gauze and gentle irrigation with permanganate of potassium, or the creosol compounds, may be carried to the end with greatly diminished and, in some instances, with but little pain. Besides the exhausting influence of repeated hemorrhage is much diminished, and the general comfort of the patient promoted.

In hospitals the electro-cautery can usually be installed and used with proper platinum knives with great satisfaction, though the Pacquelin cautery with similar platinum accessories can be employed with effectiveness (and outside of hospital practice) one is usually restricted to the Pacquelin cautery. Tact and skill in the use of a proper speculum, so as not to impinge on diseased surfaces (often the Sims speculum with the patient in the Sims position), and the parts protected from burning by asbestos paper, will make possible the safe removal of diseased structures without troublesome hemorrhage, and include the destruction of tissues not removable with the knife or by the use of caustics.

Boldt has devised a tabular speculum for the use of the thermo-cautery, so constructed that a stream of cold water traverses hollow spaces in the instrument, preventing risk of burning of the vaginal wall.

In a general way it may be stated that nearly every case of cervical or uterine cancer — save in the final stage — may be treated by the thermo-cautery with advantage and resulting comfort. The more diseased structure removal, the greater the benefit. The first results are diminution of pain, lessened discharge and a healthier appearance of granulating surfaces. As a rule,

if there is no burning of the muco-cutaneous surfaces, there is little or no pain as a result of the operation. The critical question is the extent to which the diseased tissue can be removed without injury to the bladder, ureters, and the intestinal tract. It has not been my misfortune to injure any of these structures by the use of the cautery, though the possibility of it should be kept in mind and explained to the friends in advance of the operation, for such an accident might be no evidence of lack of skill on the part of the operator, which to my knowledge has happened to one of the most distinguished operators of our country. Dr. Byrne states he had no primary mortalities from the operation, neither have I, and I believe, with due care, the risk is so little as to be practically negligible. Some prerequisites are necessary — perfect anesthesia; capable assistants; proper apparatus; adequate protection of the vagina from burning; great patience in the progressive steps in the application of the knife at a dull red heat, so as not to burn the tissues so rapidly as to provoke hemorrhage, and to cook them sufficiently to destroy as far as possible malignant structures; and the exercise of judgment and skill in the area of structures to be removed. With care and experience it is frequently possible to remove all of the cervix and most of the body of the uterus (when involved), save a little more than a shell of the peritoneum.

The nature of the attack will be determined by the extent of the disease. If the cervix is intact (or nearly so) it may be seized by a strong double volsella for purpose of downward traction, or if insufficient for this purpose, a strong double tenaculum opening outward can be introduced within the cervical canal for a similar purpose. In applying the cautery knife, the incision encircling the cervix should, if possible, be above the growth, and if need be, reaching to the utero-vaginal junction. The traction should not be strong enough to loosen its hold, but should be even and constant, while the cautery knife slowly eats its way through the tissue near the circumference of the uterine body, but outside the peritoneal covering. To make the cautery knife effective it should be kept in slow motion up and down or laterally; otherwise it is likely to provoke hemorrhage and delay progress, at the same time keeping it free from the eschar. If hemorrhage happens, which is always a troublesome possibility, a small gauze sponge saturated with diluted acetic acid, or of a solution

of adrenalin, carefully applied with pressure, usually controls the bleeding until the slow reapplication of the cautery closes the bloodvessels. If, after all that has been accomplished by this step has been done, and it is found that infected portions of intra-uterine structure remain, particularly in the fundus, a round, dome-shaped instrument can be cautiously introduced high up into the uterine canal and further cauterizing facilitated. So also can infected areas of disease on the vaginal wall be removed by the curved platinum knife. When the disease is so far advanced that not the cervix alone has broken down, but much vaginal involvement is present, the cancerous structure should, as far as possible, be removed by the same method, but by slow, progressive steps, or a strong curette may be applied, followed by the cautery knife. Even in these later stages, enough of the involved structure can be removed to quiet or obtund pain, check or control hemorrhage and lessen, in a greater or less measure, the discharge from diseased surfaces, thereby diminishing the suffering and the rapid tendency to exhaustion. Daily irrigation and dressing of the parts must be carefully persisted in.

As yet the exact status of the value of radium is not known, while my personal experience is insufficient to enable me to speak *ex cathedra*, but of its safety and efficiency in certain cases I am thoroughly convinced. Its power to diminish the proliferating cell growth is undoubted, and that malignant structures under its use, with radium of a relatively high radio-activity, gives hope that much that has been claimed for it will prove true. Unfortunately, its high cost almost precludes its use.

Regarding the efficacy of the x-ray treatment in carcinomatous disease, there seems to be a wide diversity of opinion. In my personal use of this agent in uterine cancer, I am not wholly decided, though for a time benefits seem to follow its use. While it is true that the application of the agents mentioned should not be carried beyond conservative limits, the fact remains that their wise use, guided by discrimination and judgment, are at present the best measures we have to combat this disease, and who will dare to affirm that the end to be gained not only justifies the means, or that for humanity's sake these methods of treatment should not become general.

Following or coincident with the use of these several remedies the mixed serum of erysipelas and prodigiosus may be employed.

Coley says that its use serves to inhibit the recurrence of carcinoma.

While study and investigation give hope that serum therapy will bring a radical cure, there is *ad interim* every reason why the diffusion of knowledge among women should be inculcated in every legitimate way, until physicians and women are alike awake to the strategic importance of early accurate diagnosis of conditions which demand careful scrutiny, and perhaps the assistance of some one especially fitted by observation, study and experience, to advise in these cases, in the hope that early radical measures may anticipate the inevitable approach of the period when all but palliative treatment is impossible. So long as procrastination supplants the imperative need of prompt and exact diagnosis, so long will the roll of mortality tell its tale of helpless woe. Added to this, the time is ripe when in every community some plan of concerted action should be adopted, in which the medical profession, public-spirited citizens and intelligent women should join, in some appropriate and effective way and commence a system of education among women by the disseminating information on those symptoms which make absolutely imperative an examination that would reveal or exclude the early presence of malignancy. If the lethargy or indifference on the part of some of the medical profession, and the false security of women with reference to such symptoms as have been enumerated, could make way for concerted efforts on the part of both to know the truth, and that at an early period a new hope would spring in hearts which are now utterly sad. This is the crux of the whole subject. Early investigation, intelligently and thoroughly pursued, to the end that radical treatment might be undertaken in suitable cases, or when this period has passed, such palliative measures might be resorted to as will afford the greatest possible relief from suffering.

If space permitted, I would give more in detail the results of my own experience in treating these cases, but will refer to three cases, which I copy from a paper I read on this subject before the Section of Obstetrics and Gynecology of the American Medical Association at Atlantic City, June, 1909, and published in the journal of the Association, December 4, 1909. In the discussion following this paper, which was participated in by Kelly, Boldt, Frederick, Stone, Polak, Wetherill and others, the fact

becomes apparent that the use of the thermo-cautery as recommended and so successfully practiced by Dr. Byrne, is becoming recognized as the most effective method of treating uterine cancer when the period for radical measures has passed. Further, there was evidence of a sentiment favoring the diffusion of specific knowledge among women of the early symptoms attending the presence of uterine cancer. The first two cases herewith reported were of the same type of carcinoma, and are instructive in showing the modifying influence of palliative treatment by the thermo-cautery. In none of them was any hope held out to the patient of ultimate cure:

Case 1. The patient, a married woman, aged forty-three, entered the Skene Sanitarium in March, 1901, with a cauliflower excrescence of the cervix as large as a man's fist. She had had numerous conceptions, all of which terminated in miscarriage; but as these were intentionally procured, there was a well grounded suspicion that her disease was related to the incident traumatism. This growth was reflected on the vaginal wall antero-posteriorly and laterally, which forbade a primary effort at hysterectomy. On March 14 I removed the growth by the galvanocautery and amputated the cervix at the vaginal junction. The surfaces healed kindly, save a small area on the uterine stump about the size of a silver half dollar. On May 21, following, the patient re-entered the sanitarium and I performed an abdominal hysterectomy. Prior to this operation she was weak, anemic and in poor physical condition. Her convalescence was satisfactory. She was kept under monthly observation by her physician, and in May, 1902, a year later, there appeared at the seat of the vaginal cicatrix a nodular mass rather larger than a silver twenty-five cent piece. At this time she entered the Memorial Hospital, and I removed a button of structure, opening from the vagina into the peritoneal cavity, the size of a silver half dollar. I examined her during the past year, and she is in perfect health, with no sign of a return of the growth.

Case 2. The patient, a married woman, aged forty-six, German, multipara, dated her trouble to a miscarriage seventeen years previously. She had a large, bleeding, ulcerated cauliflower excrescence of the cervix, extending to the vaginal walls, which nearly filled the vagina. The discharge was offensive, and the patient's health was seriously impaired from the frequent hemorrhages, associated with marked cachexia. She entered the Memorial Hospital September 23, 1902, and on the 25th I removed the entire growth by the thermo-cautery. In two months' time it had healed under daily dressings, save for a cup-shaped cavity three-quarters of an inch in diameter and one-half inch deep. The patient's general health was greatly improved. Owing to non-healing she had two more thermo-cautery operations in November, 1902, and June, 1903. In November, 1903, the disease having made some progress without materially affecting the patient's general health, Roentgen ray apparatus was

installed in the home, and on every second or third day for nearly three months treatment was given. This was followed by the use of radium, and the ulcerative process was greatly retarded and the patient's general health fairly maintained with but slight pain, up to the time of her death, May 7, 1904. For several weeks previous to her death, the normal anatomic relations between the vagina, bladder and rectum were altogether lost, and the amount of gauze daily used to fill this cavity amounted to many yards. During the twenty-one months of attendance the patient was visited by myself or my assistants about 750 times. It is at once apparent that such attention is most exacting in its demands on the attendant, but it demonstrated the fact that almost entire freedom from pain was the result, and that it was worth all its cost.

Case 3. During March, 1896, a married woman, multipara, aged forty-two, came under my observation with typical cancer of the cervix, accompanied with extensive involvement. Hemorrhage was violent, and the patient was cachectic. She was greatly exsanguinated and very weak. She entered St. John's Hospital in March, and I did a high galvano-cautery amputation as soon as her health permitted. She made a slow, but satisfactory recovery, as far as the healing and local symptoms were concerned, and after two or three months she was able to resume her family duties. In November of the same year she entered the Bushwick Hospital for the extirpation of a large gland of Bartholin. At this time there was no sign of return of the cancerous growth. On June 16, 1897, she re-entered the Bushwick Hospital, being seven months pregnant. The disease had returned, springing up around the old stump. After watching its behavior, I feared, from the hardening and infiltration of the uterine and contiguous structures, that labor might induce rupture of the uterus, and on July 18, at the eighth month of pregnancy, I removed the diseased growth, which encircled the uterine outlet, by the thermo-cautery. No shock followed, and the patient was delivered of a healthy living child on August 6. Her convalescence from the confinement was satisfactory, as was the healing after the cautery. She enjoyed good health for nearly a year. Then the growth reappeared and she entered the Central Hospital June 21, 1898, and I removed as far as possible the cancerous mass which had returned. She returned home August 25. The healing was not satisfactory, and she died a few weeks later from cerebral embolism, which only anticipated the inevitable results of her condition.

It is my purpose in the not far distant future, to lay before the medical profession a more comprehensive discussion on the subject of so-called inoperative uterine cancer, in the hope it will facilitate such a dissemination of knowledge as will lead to an earlier and more effective management of these most unfortunate cases.

Apropos to this I append a brief abstract of my paper read before the Medical Society of the State of New York, January 26, 1910, entitled "The Duty the Medical Profession Owes the Woman with Cancer."

In view of the appalling fact that statistics of registration areas show that one out of eleven of all women die of cancer, and that after reaching the age of thirty-five years, the mortality increases to one in nine, and that most of these are cases of uterine cancer, the question arises whether the medical profession does not owe an unfulfilled obligation to this most unfortunate class of sufferers.

While large benefactions and well organized efforts are ministering to the comfort of those suffering from tuberculosis, there is in this State no systematic humane plan to reach these more terrible cases, condemned to helpless suffering and torturing death.

There is substantial basis for the belief that earlier recognition of the presence of malignancy in these cases would add something to the measure of relief to be obtained by radical or palliative treatment. Among these unfortunate women are large numbers whose resources make it impossible for them to secure proper medical advice or capable nursing. It is also painfully apparent that home and hospital facilities for incurables are entirely inadequate to meet the needs of society. It is further a well demonstrated fact that appropriate palliative treatment, carefully and systematically persisted in, will relieve in large measure the suffering of those doomed to certain death.

In view of these facts it is resolved, first, that the Medical Society of the State of New York, by its president shall appoint a committee of five, whose duty shall be to urge on all practitioners of medicine in this State greater care in making early diagnosis in cases of suspected uterine cancers. Second, resolved that this committee be directed to devise some method by which, along ethical lines, women may be properly informed as to the reason why they should seek early professional advice in menstrual and hemorrhage disorders, and that it be further instructed to consider some more comprehensive plan whereby a general diffusion of appropriate and vital knowledge may be promulgated on this very important subject. Third, resolved, that this committee be directed to report its recommendations at the next meeting of the society. Fourth, resolved that the treasurer of this society be directed to honor payment of bills incurred for printing and needful correspondence (if not otherwise provided for), and that this committee be empowered to fill vacancies in its membership and appoint sub-committees if deemed expedient.

DEFINITIONS OF CONTAGIOUS AND INFECTIOUS.

BY GEORGE E. GORHAM, M. D.

I was recently asked to make plain to a class of pupil nurses the meaning of the word infectious, the word contagious, and to explain clearly the difference in the meaning of the two words. Questions like these are usually settled by referring to dictionary authorities but in this case they utterly failed me.

The Century Dictionary defines contagious in the following words: "Communicable by contagion" and then defines contagion as "Infectious contact or communication; specifically and commonly, the communication of a disease from one person or brute to another. A distinction between contagion and infection is sometimes adopted, the former being limited to the transmission of disease by actual contact of the diseased part with a healthy absorbent or abraded surface, and the latter to transmission through the atmosphere by floating germs or miasmata. There are, however, cases of transmission which do not fall under either of these divisions, and there are some which fall under both. In common use no precise discrimination is attempted." Infectious is defined as, "Communicable by infection; easily diffused or spread from person to person or from place to place, as a disease, a moral influence, or a mental condition: specifically applied to diseases which are capable of being communicated from one to another, or which pervade certain places, attacking persons there, independently of any contact with those already sick. Infectious diseases include contagious and miasmatic diseases."

Upon interviewing my medical friends, I found confusion and disagreement in regard to the meaning and use of the two words, some saying a contagious disease was one communicated by direct contact, as, gonorrhoea or syphilis is communicated, and an infectious disease was one which was communicated without direct contact, as in the case of typhus or smallpox for instance; others saying there was no difference in the meaning of the two words.

At the State Board of Health, I learned that both words were avoided as much as possible and the word communicable used in their place. It is an apparent fact that much confusion exists about the meaning of the two words, and one way to avoid the

confusion would be to drop them and substitute the word communicable, as is done by the State Board of Health. But it seems to me not the wisest way.

The confusion has arisen from the fact that the words contagion, infection and miasm were used to express a supposed cause of disease before the science of bacteriology taught us that the real cause of zymotic diseases was a pathogenic microorganism. Until late in the nineteenth century malaria was thought to be caused by something coming from the damp swampy lands, and that something was called miasm; infection was supposed to be a poisonous something arising from decaying animal and vegetable matter which caused disease, and this something was called infection and also called contagion.

But since we know that plasmodia conveyed by the mosquito are the only cause of malaria, the word miasm has fallen into disuse; and, as before stated, the State Board of Health has abandoned the use of the words infectious and contagious when referring to the communicability of disease; and use the word communicable instead.

It seems to me the word infectious can never be dropped by the profession for it has come to have a new and definite meaning.

Osler classifies diseases in his work on practice, and one class is called "The Specific *Infectious* Diseases," in which he includes all zymotic diseases. In the sense here used the word has no reference to the communicability or contagiousness of disease. *an infection* producing an infectious disease. Any disease caused by an infection is an infectious disease and we must retain the word, retain it to express the cause but not the communicability of disease.

The word contagion will never be dropped by the laity and, with a proper understanding and a limited and concise definition, I see no reason for dropping it from medical literature.

According to our present knowledge an infectious disease is a disease caused by the introduction, growth and development within the animal economy of pathogenic microorganisms, and all infectious diseases are communicable; communicable by having such pathogenic microorganisms transferred from an infected person to a non-infected person.

The manner in which these microorganisms are conveyed from

one person to another varies greatly. In malaria and yellow fever, for instance, they are conveyed by an infected mosquito, in whose body the germ develops, after which it is planted by the mosquito into the circulation of some unsuspecting individual. In gonorrhoea and syphilis it is carried in the pus or mucus from an infected person. In smallpox and mumps there is no carrier so far as we know, and as we limit the meaning of the word infectious to diseases caused by pathogenic organisms, so I would suggest that we limit the meaning of the word contagious to the infectious diseases which are communicated without known carriers of the infection.

In my effort to clear the confusion about the two words I will make bold to suggest to the lexicographers the following definition:

Infection — A pathogenic microorganism, a germ, which when introduced into the animal economy, will by its growth and development cause a disease; (b) local, or general disease process caused by pathogenic microorganisms.

Infectious — Pertaining to infection: as an infectious disease — a disease caused by an infection (a pathogenic microorganism) is an infectious disease, — once used to express the communication of disease through the atmosphere.

Contagion — A pathogenic microorganism. See *infection*.

Contagious — Communicable by contact, direct or indirect, as a contagious disease — a disease which may be contracted by simply coming in contact with the atmosphere surrounding the diseased person is called a contagious disease; specifically a disease in which its pathogenic organism seems to be conveyed from one to another through the atmosphere without known carriers; (b) propagated by influence or incitement; exciting like feeling, or action; spreading or liable to spread from one to another; as, religious excitement or hysteria.

These definitions will, I believe, hold good in the light of present knowledge and prove correct as the science of bacteriology and etiology develops. A few years ago yellow fever, was considered one of the most highly and easily communicable diseases, and to express that communicability, it was called contagious and infectious; but so soon as the carrier of the pathogenic organism was known, the mosquito, it dropped out of the class of contagious diseases. It retains the adjective in-

fectious, not to express its communicability, but to express the cause and place it in its proper class of diseases.

To adopt these definitions would simply require that we drop the word infectious, as applying to the communication of disease, and use the word contagious to express the communicability of diseases, like typhus, mumps, smallpox, measles, scarlet fever and the like; all diseases which fall under the proposed definition of contagious diseases. This would be in full accord with what the public generally understand by contagious or catching diseases.

The present definitions, as given in standard dictionaries, are incomplete, and are not true definitions in the light of present day knowledge.

The Century Dictionary, for instance, after trying to give a definition of contagious, states, "A distinction between *contagion* and *infection* is something adopted, the former being limited to the transmission of disease by actual contact of the diseased part with a healthy absorbent or abraded surface, and the latter to transmission through the atmosphere by floating germs or miasmata. There are, however, cases of transmission which do not fall under either of these divisions, and there are some which fall under both." Here we have positive admission that the definition is incomplete, in that some diseases do not fall under either form of the definition and some which fall under both.

Foster's Medical Dictionary, in speaking of infection, states that it "differs from contagion in the fact that the germs are not necessarily transferred from another organism, and, as used by some writers, in the further fact that, when they are, contact of the two organisms is not requisite." Here, again, is an error, for he says: "differs from contagion in the fact that the germs are not necessarily transferred from another organism." Holding the old idea that infection meant that the disease might be taken from the atmosphere without relation to the previous case.

We know to-day, when we have a case of a zymotic disease, that the pathogenic organism has been transported from a previously infected person.

If we adhere to these definitions it will be in conflict with the thought entertained by many medical men and also it fails to agree with the dictionaries, yet, I believe it to be in harmony

with the advanced knowledge which we have of the cause and communicability of disease, and also in harmony with many of the ablest teachers of hygiene and medicine.

For instance, Rickett, in his book on "Infection and Immunity," defines a contagious disease as an infectious disease transmitted from one individual to another by direct or indirect contact. And Holt, in the *American Journal of Medical Sciences* for May, in his paper on "Acute Poliomyelitis" says: "Infectious diseases include all diseases set up by pathogenic microorganisms and some of them being transmissible from one person to another by contact, direct or indirect, we call contagious and treat them accordingly." Welch, of Johns Hopkins University, said in a recent lecture, "Nobody uses the term infectious disease in the sense as something contrasted with contagion. Since the demonstration that the great majority of infectious diseases—however you define the term—are due to parasitic organisms, bacteriologists, pathologists and most clinicians define it as any disease produced by a microorganism which enters and grows within the body."

Thus we have the best authority for using the word infectious as pertaining to the cause of disease only and not to its communicability, and we have the authority of Holt, Rickett and of the standard dictionaries of not limiting the meaning of the word contagious to diseases which are contracted by actual contact, but to give it the wider meaning as expressed by the definition of a contagious disease here suggested.

A COMPARATIVE STUDY OF HEMOLYSIS IN VITRO AND IN VIVO AS A MEANS OF DIAGNOSIS OF CARCINOMA.

Read at the February, 1910, meeting of the Surgical Club of Schenectady.

By ARTHUR KRIDA.

The present study was undertaken at the suggestion of Dr. C. G. McMullen who wished to ascertain the value and the clinical applicability of the hemolytic reactions.

A specific test for the presence of malignant neoplasms, in the sense of the specificity of the Widal reaction for typhoid

fever, is an object that has been long sought by the profession. Cancer being such a widespread disease, and one whose radical cure by surgical interference is dependent essentially upon its early recognition, any additional procedure which will aid us in its early diagnosis should merit our most careful investigation.

In the last few years, since the chemical, physical and biological properties of the blood came to be investigated with great assiduity and thoroughness, especially by the German observers, it has also been thought that in the blood of cancer patients might be found some substance or quality that would be diagnostic of this condition. The study of the morphology of the blood, enhanced by the improved staining methods of Ehrlich, led certain observers to conclude that changes characteristic of cancer might be found in the blood cells, but it seems to have been pretty definitely proven that these changes were simply those of the resulting secondary anemia. In 1900, Grünbaum¹ and Ascoli² endeavored to make the agglutinating property which cancer serum possessed for normal red cells, the basis of a specific reaction, but other observers showed that this was quite constantly present in malaria, and occurred with varying frequency in a variety of other diseases. The resistance to laking of the red cells in hypotonic salt solution³ was also investigated, and it was incidentally shown that normal red cells varied greatly in their resistance, and that only in the gravest anemias was the resistance great enough to be of value as a diagnostic aid.

Almost coincidently with his agglutination observations, Ascoli² in 1901 investigated the lytic action of pathological sera on normal red cells. *Intra vitam* hemolysis has since then been studied by quite a large number of workers, and I will give you a summary of their net results farther on in this study.

The study of hemolysis and hemolysins had its inception about 1875, when the subject of the transfusion of alien blood into human individuals was a much discussed question. It was soon discovered that the transfusion of blood between unrelated species is distinctly harmful, even fatal, effecting a solution of the recipient's red cells, but that blood transfusion between closely related species produced no ill effects.

In endeavoring to determine the nature of the substance or substances which produced this hemolysis, Bordet in 1898⁴ experimented on guinea pigs, rabbits, dogs and horses. Rabbits were in-

jected with small quantities of guinea pig blood at intervals of two or three days; if after four or five injections, some of the rabbit's blood was withdrawn, the serum separated and brought in contact with the centrifuged guinea pig blood cells, it was found that the rabbit serum would quickly hemolyze the pig's cells. Normal rabbit serum shows very little or no hemolysis. Further, when this hemolytic rabbit serum was tested with the red blood cells of animals other than the guinea pig, no hemolysis occurred, so that the reaction was specific for guinea pig cells. Bordet further showed that the hemolysis was dependent upon two substances which were capable of separation: one, the immune body or amboceptor, which is the specific body produced in the serum of the animal treated with foreign blood, and is stable at 56° C; the other, the alexin or complement, which is normally present in serum, but which is necessary to complete the action of the amboceptor. The complement is thermolabile at 56° C; thus if a hemolytic serum be heated for ten minutes in a water bath at 56° C, and then brought into contact with the red cells for which it is specific, no hemolysis will result, as the complement has been destroyed by heating. That the immune body has not been destroyed may be proved by adding to this mixture of treated hemolytic serum and red cells, a small quantity of normal serum, which is not in itself lytic. Hemolysis will at once occur, showing that the complement is not a specific substance, but is present in any normal serum, and that this complement is necessary to complete the action of the immune body.

The hemolytic action which many cancer sera exhibit when brought in contact with normal red blood cells is essentially similar to the hemolysis in Bordet's experiments. All investigators of hemolysis in cancer cases agree that heating the hemolytic cancer sera at 55° C, for ten minutes prevents hemolysis, and some use this thermolability of the complement as a control in their work, aiming thus to prove that the hemolysis which occurs in the unheated serum is not accidental, or due to the presence of inorganic hemolysins.

In the attempt to ascertain the source of the hemolysin present in the serum of many cancer patients, we find that the most masterly work has been done by Richard Weil.^{5 6} He made salt solution extracts of normal organ, of non-necrotic tumors, of necrotic tumors and autolyzed organs and tested the hemolytic activity of the respective extracts against normal red blood cells.

It was found that the hemolytic activity increased respectively from the normal organ to necrotic tumor extracts, but that the hemolysis produced by the extracts of normal organs and non-necrotic tumors was very slight and was dependent evidently upon different factors than the hemolysis of necrotic tumor and autolyzed organ extracts. Further, this hemolysin is non-dializable, and is inhibited by blood serum. Now the hemolysin of the autolyzed organ and necrotic tumor extracts is different; it is much more strongly hemolytic, it is dializable and serum does not inhibit its action. We may draw the following conclusions from his experiments:

A—Extracts made by macerating normal organs are very slightly hemolytic for the cells of the same species, and non-necrotic tumor extracts slightly more so; but that, *in vivo*, there is no destruction of these tumors or organs, and even were slight amounts of hemolysin elaborated, they would be inhibited by the serum.

B—Extracts of autolyzed organs and necrotic tumors are strongly hemolytic by virtue of the diffusible hemolysin elaborated, the action of which is not inhibited by the serum.

It will be thus seen that the essential feature in the production of hemolysis is in general an *intra vivam* necrosis. It is conceivable that herein lies the cause of the secondary anemias of malignant tumors; we see secondary anemias also in broken down tumors which are not considered malignant, as in uterine fibroids. Here again, the anemia is dependent essentially upon the necrosis *in vivo*.

The partial reaction of the red cells of an individual who is affected with a tumor which is undergoing necrosis is manifest by their increased resistance. It is only in exceptional cases that cancer serum will hemolyze red blood cells obtained from the same individual, while at the same time being markedly hemolytic for normal red blood cells. As before stated, the red blood cells of patients with grave secondary anemia dependent upon cancer, are more resistant to hypotonic salt solution than normal red blood cells.

Now that we have looked into the theoretical investigations and experimental results, let us briefly state the technic employed for the determination of hemolysis *in vitro*, and summarize the results obtained by the various workers who have used the method.

TECHNIC

The technic developed by Crile seems to have been followed with slight individual variations, by most laboratory workers. The blood for the test is obtained by puncturing one of the superficial arm veins after tying a tight bandage around the arm above the point of puncture. About 10 cc. is withdrawn; of this about 1 cc. is added to a centrifuge tube which has been previously half filled with a normal salt solution to which one per cent. sodium citrate has been added, and immediately centrifuged to throw down the cells. Or the cells may be obtained by defibrinating a small quantity of blood by shaking with glass beads. The rest of the blood is placed in a sterile test tube, slanted and placed in the ice chest to clot and allowed to remain there for 12 to 24 hours. The cells as previously obtained are washed two or three times in salt solution and then made up to a five per cent. emulsion with salt solution and placed in the ice chest until ready for use. Cells and serum are obtained in a similar manner from two normal individuals to act as controls and are also placed in the ice chest until ready for use. Several pathological sera may of course be tested with these two controls.

When the test is ready to set up, the hemolysis tubes are sterilized, then washed in normal salt solution. As many different combinations of cells and serum as possible are made using .5 cc. of each, and the plan of the mixtures noted. The simplest procedure is to begin with one cell emulsion, placing .5 cc. in as many tubes as there are kinds of sera, and adding to each tube .5 cc. of the various sera. As an additional control, a preparation with cells and salt solution and cells and sterile water might be made; the hemolysis in the tube containing the sterile water will of course be complete.

The rack containing the test is now placed in the incubator at 37° C for two hours. Some make an entire duplicate set and heat it in the water bath for ten minutes at 55° C before incubating. At the end of two hours, the tests are placed in the ice chest for 12 hours, and the results are then read off by some person who does not know the key to the plan of mixtures. Hemolysis is apparent by a pink or red discoloration of the supernatant fluid in the test tubes.

If the hemolysis test for cancer is positive the cancer serum should have hemolyzed the cells of both the normal controls.

A reverse hemolysis, i.e., normal serum hemolyzing pathologic cells is considered characteristic of tuberculosis by Crile, but in this the results of the other observers are almost uniformly negative.

The following table presents a summary of the results with the hemolytic reaction:

	Total.			Carcinoma.		Benign Tumors.		Miscellaneous Diseases.		Reverse Reactions.		Normals.		Excised Carcinoma without Clinical Recurrence.	
Weil ⁷	82	31	+15	3	+1	42	+9					6	+10		
Crile ⁹	591	164	+141	55	+00	71	+7	52	+49	211	+0	37	+0		
Arnold ¹¹	33	11	+10	4	+0	18	+2								
Janeway ¹²	35	35	+12												
Whittemore ¹³	109	22	+8			32	+6	8	+4	39	+7				
Blumgarten ¹⁴	75	25	+18			40	+4			10	+1				
Johnston and Canning ¹⁵	301	42	+36	14	+0	106	+17	43	+7	85	+4	3	+0		
Richartz ¹	328	73	+35			103	+0	40	+21	112	+0				
Smithies ¹⁰⁻¹⁷	158	31	+14	3	+0	55	+9	45	+2	24	+1				
Epstein and Ottenberg ¹⁸	100	38	+28			40	+20			22	+1				
	1812	472	+317	79	+1	507	+74	188	+83	509	+14	40	+0		
			67%		14%		15%		44%		2.6%		0%		

Of a total of 1,812 observations reported by ten different workers, 472 cases were carcinoma, of these 317 or 67 per cent. gave positive hemolytic reactions. Seventy-nine were benign tumors, of which 1, or 1¼ per cent., were positive.

Five hundred and seven observations were made in a variety of diseases, 74 or 15 per cent. of which presented positive reaction.

Five hundred and nine observations were made on normal individuals, 14 or 2.6 per cent. were positive.

In 40 post operative carcinoma cases without clinical recurrence, the reaction was uniformly negative.

One hundred and eighty-eight tests were performed on tuberculous patients; of these 82 or 44 per cent. presented Crile's "reverse" hemolysis.

The German observers have been determining hemolysis mostly with the blood cells of the lower animals, chickens, hogs, sheep and oxen. Cells from the three last named animals have been found to be almost uniformly resistant to hemolysis by human serum, and have since been discarded. Rosenbaum¹⁰ reports 26 tests on carcinoma cases, of which 54 per cent. reacted posi-

tively. Kelling²⁰ reports a first series of 100 cases, 36 of which were carcinomatous; of these 29—80 per cent.—were positive with the blood cells of chickens, and 17—47 per cent.—with human corpuscles. Of nine cases of tuberculosis, two were hemolytic for chickens, and seven for human cells. Of 55 controls, 3—5 per cent.—were hemolytic for chickens, and 12—22 per cent.—for human corpuscles. In a second series of 200 cases, in which he developed his technique to include union of the immune body of the sera to the cells at room temperature and a subsequent addition of non-hemolytic serum to act as a complement, he reports out of 78 cancer sera, 41—52 per cent.—of positive results with this modification, and 58, or 74 per cent., positive by his previous method.

FOR CARCINOMA

In February of this year, Elsberg, Neuhof and Geist²¹ published an ingenious method for the determination of the hemolytic reaction in vivo, and reported their results of 684 tests. It is almost an axiom that the value and accuracy of any reaction in biological chemistry is enhanced in direct ratio to the degree with which the reacting substances can be surrounded with the factors which govern its occurrence within the living organism, and its importance becomes more apparent with each new development of that branch of science. Indeed, the most important advances in biological chemistry, our antitoxins, vaccines, opsonins, bacteriolysins, precipitins and agglutinins, upon the behavior of which Ehrlich postulated his famous "Side-chain Theory," have their very foundation on this condition. It would seem then that hemolysis in vivo should possess very decided advantages over that observed in vitro, even apart from the technical difficulties that the former method eliminates. Its clinical value would be further enhanced by the greatly lessened time demanded for its application.

That these contentions are true seems to be pretty well borne out by the results offered by the previously named observers. The results obtained by us in this rather limited number of cases agree in the main with those of the authors mentioned.

The basis of the skin reactions for carcinoma is the subcutaneous injection into the forearm of about five minims of a 20 per cent. suspension in physiological salt solution of red blood cells obtained from a normal, healthy individual. If the patient's serum is hemolytic for normal cells, an oval area of

discoloration about 2 x 5 cm. will appear at the site of injection in from five to eight hours.

The discoloration is described as "brownish red to a maroon, with rarely a bluish tinge. The lesion is distinctly raised from the surrounding surface." The discoloration persists from one to three hours, and usually begins to fade at the end of eight hours, leaving a greenish ecchymosis at about the end of twelve hours. The element of time here is variable, however, as we have also found. If the patient is in a hospital, he should be observed about once an hour, beginning about five hours after the injection, and making three or four observations. If the patient be at home, he may be conveniently seen about six hours after the injection. If the observation then made be inconclusive, he may be instructed to notify the physician should a reaction appear within three or four hours.

The blood required should of course be obtained under aseptic precautions, and from "an individual who is not ill, has not lately been ill, free from syphilis or tuberculosis, and who has not recently had an anesthetic." These factors seem to interfere with the reaction.

The quantity of blood necessary varies of course with the number of reactions to be carried out. For ten or a dozen reactions 2-3 cc. is obtained as described previously. Sufficient blood for two or three tests may be obtained by simply puncturing the finger and allowing a dozen drops to flow into a centrifuge tube half full of salt-citrate solution. This is immediately centrifuged, washed three times as previously described, and made into a 20 per cent. suspension in physiological salt solution. The suspension is placed at 0° C, for 24-48 hours and is then ready for use. We have found that a convenient method of keeping this suspension until ready for use is to draw up a sufficient quantity for individual test into pipettes and seal the ends. The suspension does not keep longer than five days, and one should see that no hemolysis has occurred previous to using it for injection.

Elsberg, Neuhoﬀ and Geist have classified the results of their tests as follows:

Carcinoma, positive or probable	69 cases, 62 or 89.9% + and 2 or 2.9% doubtful
No carcinoma	325 cases, 15 or 4.6% + and 3 or 1.1% doubtful
Possible carcinoma	9 cases, 7 or 77.8% +
Carcinoma, advanced or miliary	11 cases, 0 or 100% negative

The following represents our experience with the reaction, including in all 76 tests. Of 12 cases of carcinoma, the reaction was positive in nine, or 75 per cent. It has hardly seemed to us expedient to classify the cases of advanced or miliary carcinoma separately, as a question might well arise as to just where the border line should be drawn. Furthermore we find that the reaction is not uniformly absent in the cachectic cases. Elsberg, Neuhoff and Geist have made such a subdivision and found the results negative in their 11 cases so classified. If these cases were figured in together with their 69 other cases of carcinoma, making 80 cases in all, the percentage of positive results would be about 77 per cent.; with this our observations are quite in accord:

CLINICALLY DIAGNOSED CARCINOMA

1. No. 20. +Epithelioma of face.
2. No. 17. —Carc. colon. Expl. laparotomy, inoperable. Cachexia.
3. No. 34. —Carc. penis. Amputation 1 year ago. Involvement of inguinal glands. Ulceration.
4. No. 36. + (2 tests) + Carcinoma splenic flexure, not operated. Stenosis, Cachexia.
5. No. 59. +Recurr. carc. of breast. Edema both arms, ulceration axillary glands, skin metastises.
6. No. 62. +Recurr. carc. breast, 2½ years after operation. Cervical glands distinctly enlarged.
7. No. 64. —Stricture of duodenal angle, probably carcinoma. Gastro enterostomy 2½ years ago. Patient now feels well, but has a vomiting spell once a week. Weighs 137 lbs.; has weighed as much as 200 lbs.
8. No. 68. +Recurrence of carc. of breast, operation 3 months ago.
9. No. 70. +Inop. carc. cervix; palliative operation 2½ years ago.
10. No. 69. +Macroscopic diag. at operation, carc. stomach. Woman 35, one year since gastroenterostomy, previously palpable tumor has disappeared; patient vomits once a week, and has continually foul eructations; has lost about 35 lbs. in weight, but has gained slightly lately.
11. No. 74. +Carc. breast removed six years ago; no local recurrence, patient has profuse vaginal discharge; diagnosis general carcinomatosis.
12. No. 77. +Carc. breast, scirrhus, test made on day of operation. When seen six hours after the injection, the patient presented the characteristic greenish tender area of ecchymosis which follows the reaction. The hemolysis in this case was apparently very prompt, the same as was noted of case No. 59.

In four cases of carcinoma without clinical recurrence, we find the reaction uniformly negative:

1. No. 63. —Carc. of transverse colon, operation one year ago.
2. No. 66. —Carc. uterus, hysterectomy
3. No. 72. —Carc. parotid gland, operation two years ago.
4. No. 73. —Carc. cervix, complete hysterectomy in Sept., '08.

In 23 cases of a variety of diseases, 1, or 4 per cent., presented a positive reaction.

MISCELLANEOUS DISEASES.

1. No. 1. —Tbc. knee.
2. No. 2. —Pneumonia.
3. No. 3. —Pneumonia.
4. No. 4. —Nephritis.
5. No. 9. —Cystitis.
6. No. 12. —Cellulitis.
7. No. 13. —Appendicitis.
8. No. 14. —Arthritis.
9. No. 16. —Appendicitis.
10. No. 18. —Fibrous stric. of esoph. (2 tests)
11. No. 29. —Gastric ulcer.
12. No. 30. —Bright's disease.
13. No. 31. —Lead poisoning.
14. No. 33. —Tbc. knee.
15. No. 35. —Bright's disease.
16. No. 37. —Rheumatism.
17. No. 42. —Hemiplegia.
18. No. 49. —Chronic ulcers.
19. No. 51. + (2 tests) Chronic ulcers. Woman 55 years of age.
20. No. 52. —Rheumatism.
21. No. 58. —Gastric ulcer.
22. No. 65. —Syphilis.
23. No. 71. —General peritonitis.

TUMORS OTHER THAN CARCINOMA

1. No. 6. —Sarcoma sacro-iliac joint. No operation.
2. No. 67. —Chronic mastitis, microscopical diagnosis.

Of 25 clinically well patients, 2, or 8 per cent. responded positively to the reaction.

VARIABLE REACTIONS.

In a certain small number of cases not clinically carcinomatous, a positive reaction was obtained. There were in all five such cases, on all of which I applied a second test two or three days after the first. The second test was positive in three of the cases; one of these was a case of chronic ulcers (No. 50); two were

normals, and these cases are included under their respective heads. The remaining two cases, clinically well, proved negative; I have therefore classified them as "variable reactions." The cell suspension which was used for the first test on the latter two cases was five days old; it is possible that some slight degree of hemolysis may have taken place previous to the injection.

CONCLUSIONS.

1. The hemolytic reaction occurs in so great a percentage of carcinoma cases and in so small a percentage of normal individuals and patients with other diseases, which conditions can usually be differentiated, as to make it of material diagnostic assistance in doubtful cases, especially in carcinoma of the gastrointestinal tract. Especially as it is so simple of application, it should be performed in all suspected carcinoma cases.

2. The "in vivo" or "skin reaction," because of its better scientific basis, and because it is technically less difficult and time-consuming, is the clinical method of choice.

REFERENCES

- ¹ GRUNBAUM *British Medical Journal*, 1900.
- ² ASCOLI *Münchener med. Woch.*, 1901, 1239.
- ³ LANG *Zeitschrift für klin. Med.*, 1902.
- ⁴ BORDET *Annals Inst. Pasteur*, Vol. XII, 1898.
- ⁵ WEIL *Proc. Soc. Exp. Biology and Med.*, 1907, 25.
- ⁶ WEIL *Jol. Med. Research*, 1907, 287.
- ⁷ WEIL *Jol. Med. Research*, Oct., 1908.
- CRILE *Jol. A. M. A.*, June, 1908, 1883.
- CRILE *Jol. A. M. A.*, Dec. 12, 1908.
- ¹⁰ SMITHIES *Medical Record*, Nov. 27, 1909.
- ¹¹ ARNOLD *Trans. Conn. Med. Soc.*, 1909, 155-166.
- ¹² JANEWAY *Annals of Surg.*, Jan., 1909.
- ¹³ WHITTEMORE *Bost. Med. and Surg. Jol.*, Jan. 21, 1909.
- ¹⁴ BLUMGARTEN *Med. Record*, 1909, LXXV, 61.
- ¹² JOHNSTONE
AND CANNING *J. A. M. A.*, Oct. 30, 1909.
- ¹⁶ RICHARTZ *Deutsche med. Woch.*, Aug. 5, 1909.
- ⁷ SMITHIES *Arch. of Diag.*, Jan. 1910.
- ¹⁸ EPSTEIN AND
OTTENBERG *Arch. Int. Med.*, 1909, III, 467.
- ¹⁹ ROSENBAUM *Münch. med. Woch.*, 1908, LV, 443.
- ² KELLING *Wiener klin. Woch.*, Sept. 23, 1909 1211.
- ²¹ ELSBERG,
NEUHOF
AND GEIST *Am. Jl. Med. Sciences* Feb., 1910, 214.

Editorial

Doubtless they executed the trust to the best of their ability; but something got wrong. The bandages were displaced or tampered with; great loss of blood followed. MacTurk, being summoned, came with steed afoam. He was one of those surgeons whom it is dangerous to vex—abrupt in his best moods, in his worst savage. On seeing Moore's state he relieved his feelings by a little flowery language, with which it is not necessary to strew the present page. A bouquet or two of the choicest blossoms fell on the unperturbed head of one Mr. Graves, a stony young assistant he usually carried about with him; with a second nosegay he gifted another young gentleman in his train—an interesting fac-simile of himself, being indeed his own son; but the full *corbeille* of blushing bloom fell to the lot of meddling womankind, *en masse*.

Shirley.

CHARLOTTE BRONTË.



The Blood Pressure in Anaesthesia The estimation of the blood pressure has become a clinical procedure almost as common as thermometry, and gives evidence of conditions as suggestive as changes in the temperature. A recent contribution by Guy, Goodall and Reid (*Edinburgh Medical Journal, March, 1910*) upon variations in pressure during anaesthesia leads the way to observations which may influence the technique of surgical operations. The objects of the research were: (1) to observe and compare the effect of the administration of various anaesthetic agents on systolic pressure; (2) to note any variations in the effect produced by different methods of administration, and (3) to ascertain the conditions favorable to the production of the minimal disturbance of systolic pressure during the induction of anaesthesia. The following mentioned agents were employed: (1) chloroform; (2) ether; (3) nitrous oxide, (*a*) rebreathing, (*b*) with valves, (*c*) preceded by oxygen; (4) nitrous oxide and ether in sequence; (5) ethyl chloride; (6) gas and ethyl chloride in sequence; (7) oxygen, gas and ethyl chloride in sequence.

In chloroform anaesthesia the inhibition of the heart is well known, particularly when the administration is rapid and concentrated. There was complete absence of rise in pressure, possibly because there was no excitement or struggling on the

part of the animals observed. The tables shown give strikingly the fall of pressure brought about by chloroform *per se*, by depression of the cardiac muscle, by dilatation of the vessels or by both. Nitrous oxide was administered in two ways. First, valves were used, the patient inhaling the gas and exhaling through valves, so that in a short time the residual air was washed out by gas, and he was temporarily deprived of air. When nitrous oxide was administered by "rebreathing," a two-gallon bag was filled with gas, and the patient breathed in and out of this bag. With both methods there was considerable rise in blood-pressure. When nitrous oxide rebreathing was preceded by oxygen the maximum rise in pressure was fifteen per cent. and the average maximum increase was only three per cent. When gas and ether were employed, the nitrous oxide was inhaled for twenty-five seconds, and the ether for from twenty-five to fifty seconds. There followed a constant and nearly uniform rise in pressure. This was due to stimulation of the heart, and apparently, also, to a certain amount of vaso-constriction. The general effect of ethyl chloride anaesthesia was a lowering of the pressure, which increases with the dose, and may reach a dangerous degree. If gas be added to the ethyl chloride the depressive effect is entirely eliminated, and its subsequent administration is much safer. The combination of oxygen, gas and ethyl chloride exerts a remarkably steadying effect on the blood pressure, and the investigators direct attention to the absence of asphyxia and the value in safety of this method of anaesthesia.

The following conclusions are stated:

(1) There is no practical difference between the available anaesthesia brought about by nitrous oxide when rebreathing is allowed, and that available when nitrous oxide is given with valves, but the effects of asphyxia are much more marked in the latter method.

(2) The asphyxial element present in the rebreathing method can be avoided by the previous inhalation of a gallon of oxygen, but the period of available anaesthesia is often shortened a few seconds.

(3) Ethyl chloride causes marked disturbance of the circulation, and in large doses may bring about a dangerous fall of systolic blood-pressure by inhibition of the heart.

(4) This fall is prevented by the previous inhalation of gas, the effect then being a constant rise, probably, in part at least, due to asphyxia.

(5) The slight asphyxial element in gas and ethyl chloride anaesthesia can be eliminated by the previous administration of a gallon of oxygen without any shortening of the period of available anaesthesia.

Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF HEALTH, ALBANY, N. Y.

BUREAU OF VITAL STATISTICS, MARCH, 1910.

Deaths, March, 1910.

Consumption	27
Typhoid fever	2
Scarlet fever	1
Measles	0
Whooping-cough	0
Diphtheria and croup	1
Grippe	12
Diarrheal diseases	0
Pneumonia	26
Broncho-pneumonia	7
Bright's disease	19
Apoplexy	12
Cancer	12
Accidents and violence	3
Deaths over 70 years	40
Deaths under 1 year	23

Total deaths	202
Death rate	23.77
Death rate less non-residents	21.89

Deaths in Institutions.

	Resident	Non-Resident
Albany Hospital	8	7
County House	5	3
Home for Aged Men.....	1	0
Homeopathic Hospital	7	3
Hospital for Incurables.....	1	0
Little Sisters of the Poor.....	2	0
Public places	2	1
St. Margaret's House.....	1	1
St. Peter's Hospital	7	1
St. Vincent's Female Orphan Asylum	1	0
C. of L. Pavilion	1	0
Red Cross, Albany Hospital.....	2	0
Austin Maternity Hospital.....	2	0
Total	40	16

Births	131
Still births	6
Premature births	0

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

In the Bureau of Plumbing, Drainage and Ventilation there were two hundred eleven inspections made of which eighty-seven were of old houses and one hundred twenty-four of new houses. There were forty-six iron drains laid, twenty-one connections to street sewers, twenty-one tile drains, forty-three cesspools, sixty-eight wash basins, eighty-four sinks, seventy-one bath tubs, seventy-one wash trays, one hundred twenty-one tank closets. There were one hundred sixty-five permits issued of which one hundred three were for plumbing and sixty-two for building purposes. There were fifty-four plans submitted, of which nineteen were of old buildings and thirty-five of new buildings. Two houses were tested with peppermint and there were thirty-one water tests. Twenty-two houses were examined on complaint and forty-five were re-examined. Eleven complaints were found to be valid and eleven without cause.

BUREAU OF CONTAGIOUS DISEASE.

Cases Reported

Typhoid fever	5
Scarlet fever	24
Diphtheria and croup.....	13
Chickenpox	11
Measles	93
Whooping-cough	3
Consumption	49
Total	198

Contagious Disease in Relation to Public Schools.

	Reported		Deaths	
	D.	S. F.	D.	S. F.
Public School No. 2.....	..	1	..	..
Public School No. 4.....	..	1	..	..
Public School No. 7.....	..	1	..	..
Public School No. 17.....	..	3	..	..
Public School No. 24.....	1	..	..	..
Number of days quarantine for diphtheria:				
Longest.....	24	Shortest.....	15	Average..... 18 4/5
Number of days quarantine for scarlet fever:				
Longest.....	46	Shortest.....	10	Average..... 26 9/14
Fumigations:				
Houses.....	40	Rooms.....		130
Cases of diphtheria reported.....				13
Cases of diphtheria in which antitoxin was used.....				13
Cases of diphtheria in which antitoxin was not used.....				0
Deaths after use of antitoxin.....				1

BENDER REPORT ON TUBERCULOSIS.

Positive	28
Negative	34
Failed	0
Total	62

TUBERCULOSIS

Living cases on record March, 1910.....	447
Reported during March, 1910:	
By telephone	0
By Bender	14
By card	25
	39
Dead cases reported by certificate.....	18
	57
	504
Dead cases previously reported.....	9
Dead cases not previously reported.....	18
	27
Living cases on record April 1, 1910.....	477
Total tuberculosis death certificates filed March, 1910.....	27

BUREAU OF PATHOLOGY.

Bender Laboratory Report on Diphtheria.

Initial positive	16
Initial negative	58
Release positive	17
Release negative	40
Failed	16

Total 147

Test of Sputum for tuberculosis:

Initial positive	27
Initial negative	40

BUREAU OF MARKETS AND MILK

Market reinspections	141
Public market inspections.....	29
Fish market inspections.....	7
Fish Peddlers inspected.....	1
Rendering establishments inspected.....	2
Pork packing houses inspected.....	3
Milk wagons in clean condition.....	29
Butter fats below 3%.....	0
Butter fats from 3 to 3.5%.....	4
Butter fats from 3.5 to 4%.....	24
Butter fats over 4%.....	1
Solids below 12%.....	2
Solids from 12 to 12.5%.....	4
Solids from 12.5 to 13%	7
Solids over 13%.....	16

BUREAU OF MILK

BUTTER FATS.

SOLIDS.

No.	Specific Gravity	Under 3 %	3 to 3.5 %	3.5 to 4 %	Over 4 %	Under 12 %	12 to 12.5 %	12.5 to 13 %	Over 13 %
22.....	33.6	..	..	I	..	..	..	..	I
33.....	32.6	..	..	I	..	..	..	..	I
41.....	33.6	..	I	..	..	..	..	..	I
51.....	32.6	..	..	I	..	..	..	..	I
65.....	34.4	..	..	I	..	..	..	..	I
74.....	33.6	..	..	I	..	..	..	..	I
80.....	31.6	..	..	I	..	..	I	..	..
83.....	33.6	..	..	I	..	..	..	..	I
95.....	32.6	..	..	I	..	..	I	..	..
96.....	33.6	..	..	I	..	..	..	..	I
112.....	33.6	..	..	I	..	..	..	..	I
116.....	33.6	..	..	I	..	..	..	..	I
120.....	33.6	..	..	I	..	..	..	..	I
144.....	32.6	..	..	I	..	..	..	I	..

BUREAU OF MILK—Continued
BUTTER FATS.

No.	Specific Gravity Under	SOLIDS.							
		3 %	3 to 3.5%	3.5 to 4%	Over 4%	Under 12%	12 to 12.5%	12.5 to 13%	Over 13%
146.....	31.6	..	I	..	..	I	..	..	..
147.....	33.6	..	..	I	..	..	..	I	..
156.....	31.6	..	I	..	..	..	I	..	..
159.....	34.4	..	..	I	..	..	..	..	I
165.....	31.6	..	..	I	..	..	I	..	..
166.....	32.6	..	..	I	..	..	..	..	..
174.....	32.6	..	..	I	..	..	..	I	I
176.....	32.6	..	..	I	..	..	..	I	..
179.....	32.6	..	..	I	..	..	..	..	I
181.....	34.4	..	..	..	I	..	..	..	I
180.....	32.6	..	..	I	..	..	..	I	..
182.....	31.6	..	..	I	..	..	I	..	..
187.....	31.6	..	I	..	..	I	..	..	I
190.....	33.6	..	..	I	..	..	..	..	..
357.....	32.6	..	..	I	..	..	..	I	..

Medical News

Edited by Arthur J. Bedell, M. D.

ALBANY GUILD FOR THE CARE OF THE SICK—DEPARTMENT OF VISITING NURSING—STATISTICS FOR MARCH, 1910. Number of new cases, 198; *classified as follows*: Dispensary patients receiving home care, 28; district cases reported by health physicians, 9; charity cases reported by other physicians, 68; moderate income patients, 93; Old cases still under treatment, 140; total number of cases under nursing care during month, 338. *Classification of diseases for new cases*: Medical, 76; Surgical, 14; gynecological, 2; obstetrical under professional care, mothers, 46; infants, 39; eye and ear, 6; skin and G. U., 5; throat and nose, 0; dental, 0; contagious diseases in the medical list, 10; removed to hospital, 12; deaths, 11.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 1; medical students in attendance, 4; Guild nurses in attendance, 10; patients, 5; visits by attending obstetrician, 3; visits by students, 33; visits by nurses, 43; total number of visits for this department, 79.

Visits of Guild Nurses (all departments): Number of visits with nursing treatment, 1,631; for professional supervision of convalescents, 275; total number of visits, 1,906. Cases reported to the Guild by three health physicians and twenty-nine other physicians. Graduate nurses eight, and pupil nurses eleven on duty.

Dispensary Report.—Number of clinics held, 102; number of new patients, 151; number of old patients, 561. *Classification of clinics*: Surgical, 12; nose and throat, 7; eye and ear, 17; dental, 1; lung, 14; nervous, 5; skin and G. U., 9; stomach, 4; medical, 13; children's, 13; gynecological, 9.

ALBANY HOSPITAL TUBERCULOSIS PAVILION.—The formal transfer of the camp for tuberculosis under Dr. Howard Van Rensselaer's management, to the board of Governors of the Albany Hospital has been effected and early in May a formal opening will be celebrated.

THE 1910 SKULL.—The senior class of the college has presented an attractive volume dedicated to Dr. Willis G. Tucker. It includes a list of the faculty members and their qualifications, the history of each class, a review of the social events of the college year, numerous "grinds" and original contributions by the student body. Pictures of the college buildings, hospitals, laboratory, and detail of class room work, supplemented by drawings, serve a useful purpose in showing where and how instruction is given. Although there are several typographical errors, on the whole, it is a work of considerable merit and reflects great credit on the editorial staff. It is hoped that a similar book will be edited every year. Those who have not visited the college for some time will appreciate the advances made in all departments while those who are in close touch with the work will be refreshed by the volume and enjoy the original poems. Mr. W. D. Ayer, A. M. C. ('10) of 296 Madison Avenue, is the editor.

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.—A regular meeting of the Medical Society of the County of Schenectady was held at the County Court House, Tuesday, April 26, 1910, at 8.30 p. m. Dr. George L. Broadhead, New York, read a paper on "Indications for and Technique of Operations for Induction of Labor—Persistent Occipito-Posterior Position, and Craniotomy."

NEW YORK STATE TRAINING SCHOOL FOR GIRLS at Hudson, N. Y.—The sixth annual report of the Board of Managers for the year ending September 20, 1909, has appeared in an attractive pamphlet form giving comprehensive pictures of the grounds, new buildings and interiors, and a summary of the work done under the efficient guidance of Dr. Hortense V. Bruce. The institution is in excellent condition, the old buildings are being replaced by new and more modern cottages. The girls are trained not only in housework but in domestic science as well.

CHANGES IN CLASSIFICATION OF CAUSES OF DEATH.—In the March bulletin of the New York State Department of Health attention was drawn to the "International Classification of Causes of Death," the second decennial revision of which took place at Paris last summer under the auspices of the French government. It is the aim of the International Congress to bring about a universal classification of causes of death, as much of the value of the statistical tables relating to the causes of death is lost if they are not fully available for comparative purposes.

The new Standard Certificate of Death adopted by the State Health Department was put in general use throughout the State on the first of January, 1910, and the Department will appreciate the coöperation of all

physicians in rendering correct and complete returns of death, in accordance with the instructions printed on the back of the certificate.

As to the changes in the tables, the birth and death rates have been omitted. Except in large communities, rates based upon the return for a single month are apt to be misleading. The heading "Malarial Diseases" and "Scarlatina," have been changed to "Malaria," and "Scarlet Fever," respectively. After the column showing the deaths from pulmonary tuberculosis, a column has been inserted to record the number of deaths from other forms of tuberculosis. The heading "Cancer" has been enlarged by the addition of "Malignant Tumors." A column has been devoted to deaths from diabetes. Deaths from nephritis (inflammation of the kidney) will be included in the column hitherto devoted solely to deaths from Bright's disease. The columns hitherto appropriated to "Diseases of the Skin," "Diseases of the Organs of Locomotion," and "Malformations" have been given over to the records of deaths from "Accidents," "Suicides," and "Homicides," respectively. A column has been added for the deaths from "All other Causes," and also one for deaths from "Diarrhea and Enteritis (over 2 years)." This last column does not appear in the International Classification, and has been inserted in the hope that it may serve to draw the attention of the State Department to the possible existence of undiagnosed typhoid fever in a community.

UNITED STATES PHARMACOPOEIAL CONVENTION.—A special meeting of the Committee on Credentials and Arrangements was held in Washington, Friday, March 25, 1910. Conclusions of the Committee were as follows:

In conformity with Chapters VII and VIII of the By-Laws, it is the duty of the Committee to present to the Convention two lists: "A roll containing the names of the Incorporations, the Officers of the Convention, the Board of Trustees, the Committee of Revision, and those delegates whose credentials are unquestioned and approved;" and a list of "all credentials which have been questioned, or appear to be of doubtful validity."

In view of the Constitutional provision, that delegates shall be elected by organizations and institutions entitled to representation "in the manner they shall respectively provide," and of the apparent differentiation between "Incorporated Colleges and Universities" a medical school having a department of pharmacy would, clearly be entitled to three delegates—representing either or both of its departments. Should such a school, however, appoint six delegates, three from the medical and three from the pharmacy department, they would, of necessity, be reported to the Convention in the second list, as those of doubtful eligibility. This, of course, applies only to schools not independently incorporated for five years or not represented as such in the Convention of 1900. By the same method of reasoning, delegates from schools of pharmacy connected with State Agricultural Colleges or with Technical Institutes, must be reported to the Convention as of doubtful eligibility.

In cases where there has been a merger of separate colleges or institutions of the same kind into one institution, under a new name, the institution now in existence would, by a liberal interpretation of the Constitution, be entitled to three delegates in case any one of the institutions previously existing would have been entitled to such delegates if its independent existence had been preserved.

NATIONAL ASSOCIATION FOR THE STUDY AND EDUCATION OF EXCEPTIONAL CHILDREN.—The association met April 21st and 22d at the New York University, New York City, when the following program was given:

General Topic: "The Exceptional Child." Thomas M. Balliet, Ph. D., New York University presiding. Thursday, April 21st, 9.30 A. M. **Session topic:** "The Recognition of the Problem of the Exceptional Child." "Child Study and the Exceptional Child," by Ossian Lang, New York. "The History and Aims of the National Association for the Study and Education of Exceptional Children," Franz J. A. Torek, M. D., New York. "What is being done in the Public Schools of New York City in the Training of Exceptional Children," Andrew W. Edson, New York. "The Problem of the Exceptional Child in Regular Schools, Public and Private," Milledge L. Bonham, Jr., New York. "Why the Exceptional Child is Entitled to Receive Training Suited to Its Needs at Public Expense," Oliver P. Cornman, Ph. D., Philadelphia, Pa. **General Discussion—Leaders:** Herman H. Horne, New York University, Gustave Straubenmueller, New York, N. Y., A. B. Poland, Ph. D., Newark, N. J. and others.

Thursday, April 21st, 2.30 P. M. **Session Topic:** Phases of Exceptional Development. "Biological Variations in the Higher Cerebral Centres Causing Retardation," E. Bosworth McCreedy, M. D., Pittsburgh, Pa. "Genesis of Hysterical States in Childhood, and Their Relation to Fears and Obsessions," Tom A. Williams, M. B., C. M., Washington, D. C. "Chronologica," Physiological and Psychological Age of Children: Discrepancies Between These as Causes of Derailment," C. Ward Crampton, M. D., New York. "Hereditary and Congenital Causes of Exceptional Development," X. E. Livingston Hunt, M. D., New York, N. Y. "Influence of Environment of the Atypical Child," S. Philip Goodhart, M. D., New York, N. Y. "The Value of Prophylaxis in the Early Life of the Exceptional Child," Sidney V. Hass, M. D., New York, N. Y. **General Discussions—Leaders:** Franz J. A. Torek, M. D., New York, Maurice Fishbert, M. D., New York, and others.

Friday, April 22d, 9.30 A. M. **Session Topic:** "The Perspective of the Problem of the Exceptional Child." "The Exceptionally Bright Child," Maximilian P. E. Groszmann, Pd. D., Plainfield, N. J. "Ethnic actors on Education," Maurice Fishberg, M. D., New York. "The Exceptional Child and the Law," Ernest K. Colter, New York. "Social and Religious Unrest Through Lack of Mental and Moral Equilibrium in Groups and Individuals," Rev. Dr. Stephen S. Wise, New York. **General Discussions:** Geo. A. Kohut, Ph. D., New York, S. Philip Goodhart, M. D., New York, Will S. Monroe, Montclair, N. J., and others.

ARMY MEDICAL CORPS EXAMINATION.—The Surgeon General of the Army announces that preliminary examination of applicants for appointment as First Lieutenants in the Army Medical Corps, will be held on July 18, 1910 at various army posts throughout the country.

Full information concerning the examination can be procured upon application to the "Surgeon General, U. S. Army, Washington, D. C." The essential requirements to securing an invitation are that the applicant shall be a citizen of the United States, shall be between twenty-two and thirty years of age, a graduate of a medical school legally authorized to confer the degree of doctor of medicine, shall be of good moral character and habits, and shall have had at least one year's hospital training or its equivalent in practice. The examination will be held concurrently throughout the country at points where boards can be convened. Due consideration will be given to localities from which applications are received, in order to lessen the traveling expenses as much as possible.

The examination in subjects of general education (mathematics, geography, history, general literature and Latin) may be omitted in the case of applicants holding diplomas from reputable literary or scientific colleges, normal schools or high schools, or graduates of medical schools which require an entrance examination satisfactory to the faculty of the Army Medical School.

In order to perfect all necessary arrangements for the examination, applications must be complete and in possession of the Adjutant-General on or before June 27, 1910. Early attention is therefore enjoined upon all intending applicants. There are at present 123 vacancies in the Medical Corps of the Army.

MEDICAL INTERNE, GOVERNMENT HOSPITAL FOR THE INSANE, JUNE 15, 1910.—The United States Civil Service Commission announces an examination on June 15, 1910, at the places mentioned in the list printed hereon, to secure eligibles from which to make certification to fill at least two vacancies in the position of medical interne (male), Government Hospital for the Insane, Washington, D. C., at \$600 per annum each, with maintenance, and vacancies requiring similar qualifications as they may occur in that hospital, unless it shall be decided in the interests of the service to fill either or both of the vacancies by reinstatement, transfer or promotion.

From the grade of medical interne the hospital makes promotions to the higher positions in the medical staff as vacancies occur.

As considerable difficulty has been experienced in filling vacancies in the position of medical interne in the Hospital Service during the past several years owing to the limited number of eligibles available, qualified persons are urged to enter this examination.

The examination will consist of the subjects mentioned below, weighted as indicated:

Subjects	Weight
1. Letter-writing (the subject-matter on a topic relative to the practice of medicine).....	5
2. Anatomy and physiology (general questions on anatomy and physiology, and histologic or minute anatomy).....	10
3. Chemistry, materia medica, and therapeutics (elementary questions in organic and organic chemistry; the physiologic action and therapeutic uses and doses of drugs).....	15
4. Surgery and surgical pathology (general surgery, surgical diagnosis, the pathology of surgical diseases).....	20
5. General pathology and practice (the symptomatology, etiology, diagnosis, pathology, and treatment of diseases).....	25
6. Bacteriology and hygiene (bacteriologic methods, especially those relating to diagnosis; the application of hygienic methods to prophylaxis and treatment).....	10
7. Obstetrics and gynecology (the general practice of obstetrics, diseases of women, their pathology, diagnosis, symptoms, and treatment, medical and surgical).....	15
Total	100
	=====

Applications will be accepted only from persons who indicate in answer to question 17 of the application form that they have been graduated from reputable medical colleges not more than two years prior to the date of the examination.

Both men and women will be admitted to this examination, although there are no vacancies for women at present. Applicants must be unmarried.

Age limit, 20 years or over on the date of the examination.

This examination is open to all citizens of the United States who comply with the requirements.

This announcement contains all information which is communicated to applicants regarding the scope of the examination, the vacancy or vacancies to be filled, and the qualifications required.

Applicants should at once apply either to the United States Civil Service Commission, Washington, D. C., or the secretary of the board of examiners at any place mentioned in the list printed hereon, for application Form 1312. No application will be accepted unless properly executed and filed with the Commission at Washington. In applying for this examination the exact title as given at the head of this announcement should be used in the application.

As examination papers are shipped direct from the Commission to the places of examination, it is necessary that applications be received in ample time to arrange for the examination desired at the place indicated by the applicant. The Commission will therefore arrange to examine any applicant whose application is received in time to permit the shipment of the necessary papers.

PHYSICIAN (MALE), JUNE 1, 1910.—The United States Civil Service Commission announces an examination on June 1, 1910, at the places mentioned in the list printed hereon, to secure eligibles from which to make certification to fill a vacancy in the position of physician, \$1,000 per annum and quarters, in the Indian Service, Pine Ridge Agency, South Dakota, and vacancies requiring similar qualifications as they may occur in any branch of the service, unless it shall be decided in the interests of the service to fill the vacancy by reinstatement, transfer, or promotion.

Full information regarding the examination for physician is contained in section 188 of the Manual of Examinations, revised to January 1, 1910.

Age limit, 20 to 40 years, on the date of the examination.

Applicants for position in the Indian service must accompany their applications with a certificate from a reputable physician showing that they are in good health and free from tuberculosis in any and every form.

Men only will be admitted to this examination.

This examination is open to all citizens of the United States who comply with the requirements.

This announcement and the Manual of Examinations contain all information which is communicated to applicants regarding the scope of the examination, the vacancy or vacancies to be filled, and the qualifications required.

Application Forms 2 and 375 for the Philippine service, and Form 1312, including medical certificate, for other services.

Applicants should at once apply for a copy of the Manual of Examinations and the proper application forms either to the United States Civil Service Commission, Washington, D. C., or to the secretary of the board of examiners as follows: Post office, Boston, Mass., Philadelphia, Pa., Atlanta, Ga., Cincinnati, Ohio, Chicago, Ill., St. Paul, Minn., Denver, Colo., San Francisco, Cal.; Custom-House, New York, N. Y., New Orleans, La.; Old Custom-House, St. Louis, Mo. No application will be accepted unless properly executed and filed with the Commission at Washington. In applying for this examination the exact title as given at the head of this announcement should be used in the application.

As examination papers are shipped direct from the Commission to the places of examination, it is necessary that applications be received in ample time to arrange for the examination desired at the place indicated by the applicant. The Commission will therefore arrange to examine any applicant whose application is received in time to permit the shipment of the necessary papers.

PERSONALS.—Dr. FREDERICK L. CLASSEN (A. M. C. '81) has moved from 35 Trinity Place to 305 Hamilton Street, Albany, N. Y.

—Dr. THOMAS WM. JENKINS (A. M. C. '93) will sail early in June for an extended visit in London and the Continent.

—Dr. CHRISTIAN G. HACKER (A. M. C. '99) will leave the first of June for a two months' tour of the hospitals of the West.

—Dr. DANIEL V. O'LEARY, Jr. (A. M. C. '04) has returned from a trip through the Southern States.

—Dr. HARRY RULISON (A. M. C. '05) and family sailed April 5th for a prolonged stay in Europe.

—Dr. JOHN P. FABER (A. M. C. '05) of Scotia, sailed for Europe April 5th, for a year of study.

—Dr. GEORGE R. GOERING (A. M. C. '06) is now in practice at Flint, Michigan.

—Dr. JEROME MEYERS (A. M. C. '07) after many months spent in the clinics of the Continent has returned to Albany.

—Dr. JOHN J. A. LYONS (A. M. C. '08) has moved from 145 Philip Street, to the corner of Ash Grove Place and Grand Street, Albany, N. Y., taking the office formerly occupied by Dr. Harry Rulison.

—Dr. JOSEPH DAVIS (A. M. C. '08) is forced by illness to leave his practice at New Paltz, N. Y., and has gone to the Adirondack Mountains for his health.

—Dr. EDWARD D. DONOHUE (A. M. C. '09) of the Albany Hospital resident staff is recovering from an attack of measles and will soon return to his duties.

—Dr. HARRY H. DRAKE (A. M. C. '09) has resigned from the resident staff of the Albany Hospital and started practice at New Paltz, N. Y.

—Dr. ORLA A. DRUCE (A. M. C. '09) of New Paltz, N. Y. was recently operated upon at the Albany Hospital for acute appendicitis.

—Dr. WALTER H. WATERBURY (A. M. C. '09) after suffering for many weeks with empyema was recently brought to the Albany Hospital and is now recovering.

In Memoriam

GEORGE A. BRADBURY, M. D.

“So live that when thy summons comes to join
The innumerable caravan, that moves
To that mysterious realm, where each shall take
His chamber in the silent halls of death,
Thou go not, like the quarry-slave at night,
Scourged to his dungeon, but, sustained and soothed
By an unfaltering trust, approach thy grave
Like one who wraps the drapery of his couch
About him, and lies down to pleasant dreams.”

There were few among our members so well prepared to step at once from active life to that “undiscovered country from whose bourn no traveler returns” as our colleague and friend Dr. George A. Bradbury. And when we say friend we mean it in its fullest and deepest sense for we do not believe that Dr. Bradbury either had an enemy or harbored the least feeling of enmity toward any man engaged in the practice of medicine.

On Saturday, April 9th, while making his usual rounds and apparently in perfect health Dr. Bradbury was taken with an attack of angina pectoris. He drove home as rapidly as possible and several

doctors were summoned about one o'clock and responded at once. Everything possible was done to relieve his suffering and his condition had apparently improved. He was resting quietly in bed conversing with the physicians, one of whom had his finger on his pulse. He was just quoting a favorite verse when suddenly and without warning the physician beside him noted that the pulse had stopped and that he had ceased speaking. He glanced up, the doctor's head dropped back on the pillows and without a word and with scarcely a moment's notice he was beyond human aid. The silent messenger of death had claimed him.

Undoubtedly he realized the serious nature of his attack, but never expressed the slightest fear of death or of the future.

Before the arrival of the physicians he bade his wife good bye and told her to be brave for he thought "his life was about ended." He gave directions that in event of his death his sister who was traveling abroad was not to be notified until her return home.

Thus in his last moments while suffering the most intense agony that imagination can conceive, his thoughts were only of his friends. This was characteristic of his whole life.

When death so suddenly claimed him he was quoting the following lines:

"All life is brief
What now is bud will soon be leaf.
What now is leaf will soon decay.
The wind blows east, the wind blows west,
The blue eggs in the robin's nest
Will soon have wing and beak and breast
And flutter and fly away."

The record of Dr. Bradbury's life, in brief, is as follows: He was born at Guilford, N. Y., December 28, 1857, a son of George and Weltha L. (Morse) Bradbury, both of English ancestry. His early education was obtained in the Oxford, Mexico and Bainbridge Academies. He received the degree of M. D. from the Albany Medical College in 1883, where he proved himself a conscientious and successful student. He received, by competitive examination, an appointment as interne in the Albany Hospital, in which capacity he served for two years. This experience was of great service to him in his later practice, and he frequently referred to cases seen there.

In the spring of 1885, just after completing his hospital service, he located in Lansingburgh and practiced there uninterruptedly until the time of his death, a period of twenty-five years. During all of this time he was engaged in general practice and was unusually successful in his work, though he wasn't a great believer in the potency of most drugs. He often quoted Osler's statement "that he is the best doctor who knows the worthlessness of most medicine."

Dr. Bradbury was married June, 1887, to Francis W. Dauchy, who died about eight years later. He was again married October 20, 1897,



GEORGE A. BRADBURY, M. D.

Albany Medical Annals
May, 1910

to Anna P. Dixon of New York, who with his mother and two sisters survive him.

He was appointed attending physician to the Leonard Hospital at the time of its organization, and he held that position until February the first of this year, when he resigned. He was Secretary of the Staff from February, 1898 to February, 1903, and its President from February, 1903 to February, 1910. He always possessed the confidence and friendship of his associates on the Staff and his resignation was accepted with great regret. He was an attending physician and a member of the Board of Governors of the Marshall Sanitarium at the time of his death.

He was an Episcopalian, a member and vestryman of Trinity Church, serving as a delegate to the Diocesan Convention for many years. He traveled extensively, visiting many countries not frequented ordinarily by the average tourist, including Iceland, Orkney, Faroe and the Shetland Islands, Europe, Asia and Africa. In his travels he always maintained a high interest in his profession, visiting the hospitals in those countries.

He was a member of the Rensselaer County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

It is chiefly in his relation to the Rensselaer County Medical Society that we as a body owe to his memory an everlasting debt of gratitude. He was elected President of this Society in 1902 and re-elected in 1903. At this time the Society was practically moribund. There were only a few men who took any interest in the meetings and the membership was comparatively small.

Dr. Bradbury recognized this as the official local organization and the medium through which membership in the State and National Societies could be obtained.

The results which he achieved through his tireless efforts are well known to us all, the Society being placed upon a foundation of prosperity. A third term presidency was offered to him which he declined, preferring that the honors should go elsewhere.

Dr. Bradbury was an excellent student, an extensive reader of general literature, and together with his wide knowledge of the world from extensive travel created in him a most interesting personality, and with all a modest and retiring man.

He had an extensive practice, was dearly loved by his patients and had the entire confidence and respect of his professional acquaintances.

The bereaved friends, the aged mother, the loving wife and sisters, to all of whom his life meant so much, we extend our sincerest sympathy.

R. H. IRISH,
J. B. HARVIE,
H. C. GORDINIER,

Committee from Rensselaer County Medical Society.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

A Text-Book of Protozoölogy. By GARY N. CALKINS, Ph. D., Professor of Protozoölogy in Columbia University, New York. Octavo, 349 pages, with 125 engravings and 4 colored plates. Cloth, \$3.25, net. Lea & Febiger, Philadelphia and New York, 1909.

The author states in the preface that the subject matter of this volume is founded on a course of Lowell Institute lectures given (in Boston) in 1907, the purpose being to discuss some of the old and some of the new problems in biology as illustrated by the lowest forms of animal life, the protozoa.

The author has laid ample stress upon the medical side of protozoölogy and has given full consideration to the pathogenic protozoa so that the book is admirably balanced and suited for a text-book in any university course, medical or more purely biological. The book is equally desirable to any one desiring a general survey of the progress that has been made in protozoölogy and the problems of the future.

There are ten chapters as follows:

- I. General Organization of the Protozoa.
- II. Physiological Activities of the Protozoa.
- III. Protoplasmic Age of Protozoa.
- IV. Conjugation, Maturation and Fertilization.
- V. Parasitism.
- VI. The Pathogenic Flagellates.
- VII. The Pathogenic Flagellates (continued).
- VIII. The Pathogenic Flagellates (continued).
- IX. The Pathogenic Hemisporida.
- X. The Pathogenic Rhizopoda.

Chapter one covers the general Morphology of the protozoa and the classification.

Chapters two, three and four, deal with the physiological activities and all of the many complicated life cycles exhibited by different genera and the finer features of Morphology. These subjects are treated in the light of the most recent knowledge regarding the physiology of the cell and take one deeply into the modern theories of nuclear functions.

The contents of chapter five may be indicated by the headings of the author's divisions:—Structural Modifications and Mode of Life of Protozoan Parasites. Reproduction and the Life cycle, Endogenous cycle, Exogenous cycle and its variations, Sporulations in Gregarines, Sporulation in coccidia, Sporulation in Myxosporidia, Exogenous Life of Protozoan Parasites, Air-borne Protozoa, Transmission by Inheritance, Transmission by Intermediate Hosts, Effects of Protozoan Parasites on their Hosts, Protozoa and the Cancer Problem.

The very masterly treatment of the above subjects give valuable information to the general reader as well as to the special worker in pathological fields. The method of treatment and the actual exposition of

facts is such as to furnish working directions to one with the requisite training for entrance into this field of work.

Chapters six, seven and eight cover with considerable detail the groups Spirocheta, Herpetomonas Crithidia (piraplasma, etc.) and Trypanosoma, their morphology, life cycles, classification, pathogenicity, and the general problems of medical importance.

Chapter nine deals with the Hemosporidia, and Chapter ten with the Pathogenic Rhizopoda.

The book is copiously and unusually intelligently illustrated, chiefly with original drawings and photomicrographs.

The text is clearly and entertainingly written. A full bibliography gives the volume definite value as a book of reference for advanced workers and casual investigators in protozoölogy.

The author's treatment of the cancer problem is open to criticism because of his tendency to encourage the search for a parasitic cause.

The acceptance and classification of smallpox bodies, scarlet fever bodies, negri bodies and trachoma bodies as protozoa is likewise open to strong criticism from pathological histologists.

The reviewer believes he has discovered an error in the treatment of the Coccidioides Immitis of Rexford and Gilchrist as a protozoan. This parasite, the cause of so-called coccidioidal granuloma has been proved to be a fungus.

The book will be welcomed by all those desiring a good work in English upon the subject.

It has many points that recommend it above any work on Protozoölogy in any language that the reviewer has had access to, and the feeling of the reviewer is one of gratitude to Professor Calkins for having written it.

S. B. WOLBACH.

Text-Book of Medical and Pharmaceutical Chemistry. By ELIAS H. BARTLEY, B. S., M. D., Ph. G., Professor of Chemistry, Toxicology and Pediatrics in Long Island College Hospital; Late Dean and Professor of Organic Chemistry in the Brooklyn College of Pharmacy. Seventh revised edition. With 90 illustrations and a glossary. 12mo; xv+734 pages. Cloth \$3.00 net. P. Blakiston's Son and Co., Philadelphia, 1909.

That this text-book is now in its seventh edition indicates the favor with which past editions have been received. In it are discussed the various branches of chemistry concerning which the medical student should be thoroughly familiar. Part I deals with physical phenomena of special importance in chemistry; Part II discusses the theoretical considerations upon which the science of chemistry is based; Part III takes up inorganic and Part IV organic chemistry; while Part V is given over to the consideration of physiological chemistry. There is need of a text which carefully summarizes for the physician in one volume the more important facts of chemistry, and this book fills this mission as well as any at the present time. Both inorganic and organic chemistry have been

carefully considered, and the fact that particular attention has been given to pharmaceutical preparations and to compounds found in the living organism should make it of special value to the physician. However as time passes, more and more of our medical schools are requiring both inorganic and organic chemistry for entrance, thus being able to devote more detailed consideration to the chemical changes taking place within the animal body. On this account there will be less and less demand by the medical student for a book of so called medical chemistry. In the section on physiological chemistry are found much data of interest and importance not ordinarily included even in our texts on that subject. However, it would appear that some of this material had been inserted to the exclusion of other data ordinarily regarded of greater importance in this branch of chemistry. In general the statements found in the book may be considered as correct, though occasionally one notes conclusions hardly in accord with more recent experiments. The protein nomenclature adopted by the American Physiological Society and American Society of Biological Chemists has been employed. It is to be regretted, however, that one still finds the abandoned word "proteid" in numerous places in the text. The author refers to his system of spelling for chemical terms in his preface, and later states that he has endeavored to follow the scheme recommended some years ago by the Chemical Section of the American Association for the Advancement of Science, except for those substances which are official in the pharmacopoeia. It is nevertheless somewhat difficult to follow his method, and it is suggested that, since a dual system is being used, the plan recently adopted and employed by the American Chemical Society would be more in accord with that of the official terms, and further is the system now quite generally used by chemists.

The book will still serve as in the past a handy reference book to the physician and a complete chemistry text to the student who desires the same in one volume.

VICTOR C. MYERS.

A Manual of Chemistry. A Guide to Lectures and Laboratory Work for Beginners in Chemistry. A Textbook specially adapted for Students of Medicine, Pharmacy and Dentistry. By W. SIMON, Ph. D., M. D., Professor of Chemistry in the College of Physicians and Surgeons, Baltimore, and in the Baltimore College of Dental Surgery; Emeritus Professor in the Maryland College of Pharmacy; and DANIEL BASE, Ph.D., Professor of Chemistry in the Maryland College of Pharmacy. New (9th) edition, enlarged and thoroughly revised. Octavo, 716 pages, with 78 engravings and 9 colored plates, illustrating 64 of the most important chemical tests. Cloth, \$3.00 net. Lea & Febiger, Philadelphia and New York, 1909.

The ninth edition of this justly popular work on chemistry has been revised almost entirely by Doctor Base who has carefully preserved the plan and general characteristics of former editions which have won for

it so much approval in the teaching world. This edition, however, is not as so many so-called "new editions" are, simply re-prints with a little new matter added at the end and with the real subject matter unchanged, even the pagination being preserved, but an honest revision, the changes being many and complete wherever warranted by authentic discoveries or personal research.

Most notable among the changes are the extension of the article on crystals, the rearrangement of the article on heat, an entirely new chapter relating to laws and theories in the part on Inorganic Chemistry, the increase in the number of experiments and tests, and the introduction of many new compounds of medical interest in the part on Organic Chemistry.

S. L. D.

Chemical and Microscopical Diagnosis. By FRANCIS CARTER WOOD, M. D., Professor of Clinical Pathology, College of Physicians and Surgeons, Columbia University; Pathologist and Attending Physician to St. Luke's Hospital, New York. Second Edition, with one hundred and ninety-two illustrations in the text and nine colored plates. New York and London. D. Appleton and Company, 1909.

As is indicated in the preface, the author has designed his work primarily for those who have had small opportunity for laboratory training. He therefore has endeavored, and with marked success, to keep the text simple, clear and concise and with commendable self-restraint he has refrained from introducing debatable matter.

This edition differs from the first in the discussion of the more recent methods of determining the functional activity of the gastro-intestinal tract as well as in the consideration of the new tuberculin reactions, of the opsonic index, of the rapid diagnosis of rabies in smears, of tropical splenomegaly, and of the Wasserman test for syphilis. The chapter on the urine is one that alone would give the book distinction and stamp it as of the first class, occupying two hundred and twenty-two pages of the book. The index is an especially good one and adds more to the value of the book than indices usually do.

S. L. D.

Handbook of Therapy. Cloth. Price, \$1.50. Pp. 421. Chicago: American Medical Association, 1910.

The many friends and admirers of Dr. Oliver T. Osborne of Yale University will regret that his well known modesty has prevented him from allowing his name to appear on the title page as author of this little book. Certainly nothing but modesty could have impelled him, for the series of articles which have appeared regularly in the *Journal of the American Medical Association* in the "department of therapeutics" and of which Dr. Osborne is the editor and really the author, are of such

merit and have been so favorably commented on by the profession generally and by teachers of therapeutics particularly as to make it worthy of more than mere putative authorship.

It is distinctly a book of practical therapeutics, containing terse practical suggestions for the treatment of conditions met with in ordinary every-day practice, many simple prescriptions, valuable tables of several sorts, synonyms and a list of the "New and Nonofficial Remedies." Not the least valuable portion of this book is reserved for the closing chapter which is entitled "Proprietaries Versus U. S. P. and N. F. Preparations."

It is to be hoped that every teacher of therapeutics will see that each of his students is supplied with a copy of a "Handbook of Therapy" before graduation.

S. L. D.

New and Nonofficial Remedies, 1910: Containing descriptions of articles which have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association, prior to January 1, 1910. Paper. Price, paper 25 cents; Cloth, 50 cents. Pp. 256.

This book contains descriptions of the medicinal substances which, prior to January first, 1910, had been examined by the Council on Pharmacy and Chemistry of the American Medical Association which appeared to comply with the rules.

The Council are placing it in the hands of all medical students free of cost and it should be in the hands of all practicing physicians.

S. L. D.

A Practical Treatise on Ophthalmology. By L. WEBSTER FOX, M. D., LL.D., Professor of Ophthalmology in the Medico-Chirurgical College; Ophthalmic Surgeon in the Medico-Chirurgical Hospital, Philadelphia, Pa.; Member of the Army Medical Reserve Corps, etc. Cloth, 807 pages, with 6 colored plates and 300 illustrations in the text. New York and London: D. Appleton & Co., 1910. Price \$6.00.

This work is what it claims to be, presenting the general subject, of which it treats, with proper regard for the fact that it is students who are expected to use it. The author has devoted many years to the study of ophthalmology, in enough different places to assure its being regarded by him with due reference to its varying phases, as determined by changing environment.

The book does not make the too common mistake of assuming its prospective "students" preliminary acquaintance with, or knowledge of, the subject treated in it. Such technical and delicate features as are inevitable in any speciality that has been elaborated to the extent that ophthalmology has, are adequately presented; but the elemental aspects of the subject are equally fully considered.

Modern theories and modern practical methods receive due attention but they are not presented with suggestion that they are novelties. The

discussions of "Color-perception and Color-blindness" and "Ocular Manifestations of General Diseases" seem worthy of somewhat special, commendatory mention.

Some of Dr. Fox's personal opinions, *e. g.*, those expressed in the discussion of methods for locating foreign bodies, in the eye, are not acceptable to all of his colleagues; but the book is not exceptional in this respect.

The publishers have done their part well, the paper, print and binding being good and thereby comporting with the firm's reputation. For several reasons the work is likely to be accepted as a valuable addition to modern medical literature.

C. M. C.

PATHOLOGY AND BACTERIOLOGY

Edited by Thomas Ordway, M. D.

Arthritis Deformans.

EDWARD H. NICHOLS and FRANK L. RICHARDSON. *Journal of Medical Research*, Vol. XXI, No. 2, September, 1909.

This paper is based upon a pathological and clinical study of sixty-five cases of chronic, non-tuberculous, deforming arthritis. Investigation has extended over a period of eight years. Material was derived from post mortem examinations and surgical operations.

A preliminary report was made by Richardson (*Boston Med. Surg. Jour.*, March 9, 1905). The main object has been to determine what the actual lesions of the process are. In general such chronic joints fall into two definite pathological groups; these *do not correspond to two definite etiological factors*, *i. e.*, to two distinct diseases. A given cause may produce a considerable variety of appearances; at the same time a number of different causes may lead to the same result.

Types of Joint Lesion

I. Proliferative Arthritis.—In this type the primary change occurs as a proliferation of the synovial membrane and of the perichondrium of the articular cavity, combined in many cases with a synchronous proliferation of connective tissue and endostium of the epiphyseal marrow directly below the joint cartilage. The most marked change is usually in the synovial membrane, which produces granulation tissue; this sooner or later extends over the joint as a thin, pannus-like layer which may cause destruction of the cartilage. The proliferating perichondrium may form new cartilage or bone; there may be also a proliferation of connective tissue of the marrow and of the endostium of the epiphysis, which may result in the formation of new bone or cartilage along the epiphyseal margin of the articular surface.

Such changes may be produced by a variety of causes, such as end results of infection by pyogenic micro-organisms, by gonococcus, in so-called "Still's disease," or as a result of syphilitic infection. In many cases the authors believe the condition due to a soluble or diffusible

irritant resulting from "faulty metabolism" selecting the joints as the seat of its activity. In support of this theory they call attention to such clinical facts as: the disease is long-continued, with constant remissions, intestinal indigestion, and disturbances of the sweat glands frequently are present, treatment by catharsis and diuretics often seems to give relief to the joint symptoms. In some cases they have found associated organic intestinal lesions. In this type adhesions may form and lead to narrowing or even obliteration of the joint cavity, resulting in limitation of movement and ankylosis of the joint.

The details of the varied histological processes are described and fully illustrated by excellent photographs and drawings. Increased permeability to X-rays cannot be accounted for by the very limited osteoclasia which is seen microscopically. A similar condition has been noted in experimental work on animals. Mere fixing the bones in plaster of paris for a comparatively short time increased the permeability of the bones to the X-ray, although no evidence of osteoclasia was found. This may be due to removal of the calcium salts from the bony matrix and is generally secondary to a loss of function. The capsule may become more or less thickened; tags may be formed by masses of synovial membrane projecting into the joints, producing the so-called "fungous joints." Luxations and dislocations are common and result from changes in the shape of the articular facets; they are usually associated with a *tendency to ankylosis*.

Degenerative Arthritis

Type II.—The earliest and primary change in these joints is a degeneration of the hyaline cartilage of the articular surfaces; as a result the underlying bone becomes exposed, the two bony surfaces may articulate, the line of articulation becoming irregular owing to compensatory proliferation of the perichondrium of one or the other articular surface. The joint remains movable for a long time and the bony trabeculae undergo marked thickening; the marrow spaces of the articular end of the bone may be nearly obliterated; the exposed dense bone under continued joint motion acquires a high degree of polish and has the appearance of ivory, hence the term, "eburnation of bone." The structure of bone always adapts itself to function, new trabeculae being arranged to the greatest mechanical advantage, as occurs in fractures.

Changes in the joint surface may give rise to subluxations with diminished motion; the bones may become interlocked by the deformity, yet without *true ankylosis*. At the junction of the perichondrium and capsule there may be perichondrial activity resulting in irregular, nodular changes in the articular ends, so-called Heberden's nodes. The capsule may become thickened and also the synovial membrane at the periphery of the joint, where it is thrown into folds or papillary masses composed of granulation, dense, or oedematous connective tissue; sometimes these may be converted into cartilage, bone, or fat tissue and are known as "lipoma arborescens." They may be set free in the joint and appear as loose foreign bodies, the so-called "joint mice."

The details of these histological processes are discussed and illustrated. The causes of this degenerative type of arthritis are numerous (as ad-

vanced age, exposure to strain, uric acid deposits in gout, long-continued pressure in bed-ridden persons, may cause primary degeneration; degenerative joint fibrillation is seen in *tabes dorsalis*, the so-called Charcot's joints).

Associated with degeneration of the cartilage there may be marked proliferation of the perichondrium in other portions of the joint, causing irregularity of the articular surface, often with ossification.

The *proliferative* type is most common in relatively young people, the first attack beginning suddenly and closely resembling acute articular rheumatism; most of the joints of the body may be affected, showing a fusiform swelling. These cases progress naturally by remissions. After an acute attack there is usually persistence of deformity and limitation of motion. Exacerbations of acute symptoms are common. Deformity increases, loss of function may be absolute, the joint cavity is often greatly diminished in size and even entirely obliterated; the permeability to X-rays is increased.

The *degenerative* type occurs in persons physiologically old and is often associated with disease of the central nervous system. It usually begins insidiously with lameness or disability of one or several joints. Joints seldom show redness and heat. Enlargement is seen by X-ray to be due to peripheral deposit of bone. Disease may progress continuously, or with a series of remissions; occasionally fungous masses resulting as proliferation of the synovial membrane may be palpated. In some cases these may be more marked than the degenerative change and their removal restore function of the joint and relieve symptoms.

Great deformities may occur with malposition of bones and loss of function. There is *no tendency to true ankylosis*.

In all cases *prognosis* should be guarded. Both types tend naturally to progress with long periods of remission, which accounts for many of the so-called cures.

In advanced cases prognosis never can be favorable, owing to extensive destruction of the joint.

I. *Experiments on Vaccination against Rat Leprosy.* II. *On the Extraction of Rat Lepra-bacilli from Water Emulsion by Means of Chloroform.* III. *Rat Lepra-bacilli in the Rat Louse.*

WILLIAM B. WHERRY. *Journal of Infectious Diseases*, Vol. VI, No. 5, p. 630, November 26, 1909.

Vaccines were made from the subcutaneous and glandular tissues of cases of natural rat leprosy by grinding with powdered glass and extracting with 0.85 per cent. sodium chloride solution, heating to coagulate the albumens, preserving with 0.5 per cent. carbolic acid. Vaccine showed about twenty million bacteria per cubic centimeter.

White rats weighing 100 grams were inoculated with an emulsion of lepra-bacilli subcutaneously, and at varying intervals subsequently inoculated with the above vaccine. There was practically no difference in the extent to which the disease had progressed in the treated and untreated

rats. That is, animals vaccinated with dead lepra-bacilli did not apparently influence the course of inoculation leprosy in the rat.

Other experiments to determine whether vaccination would produce immunity to subsequent inoculation, showed that the progress of the disease was markedly delayed by previous vaccination compared with two control cases.

The following method of procedure in detecting lepra-bacilli in tissue and possibly nasal secretions is suggested. Grinding the tissue with powdered glass, extracting with .85 per cent. sodium chloride solution, and shaking the emulsion with commercial chloroform. A few drops of this chloroform evaporated and the residue stained showed millions of lepra-bacilli had been extracted free of cellular elements and other bacteria.

Lice from lepra-rat in advanced stage of the disease showed acid fast bacilli resembling those of rat leprosy. Fleas on control rats were negative.

Chronic Passive Congestion of the Liver.

CHANNING FROTHINGHAM. *Journal of Medical Research*, Vol. V, No. 1, pp. 1-5, January 15, 1910.

Frothingham has studied and analyzed the clinical data of a number of cases in which autopsy showed changes in the liver resembling chronic passive congestion.

Mallory has pointed out that many of the cases of so-called chronic passive congestion are seen, upon careful histological examination, to be a haemorrhagic type of necrosis about the central veins in which there is necrosis of the liver cells, possibly due to some toxin, and the spaces formally occupied by the hepatic cylinders are infiltrated with red blood corpuscles, while the sinusoids between are collapsed, compressed, and empty. On casual examination the blood distending the spaces formerly occupied by the liver cells which have undergone necrosis, appears to be in the sinusoids themselves.

The object of this study of the clinical data is to see if cases of uncomplicated chronic passive congestion would show a true histological passive congestion, or the haemorrhagic necrosis above described. The results of the examination of a series of cases show that the majority of cardiac cases with long standing broken compensation show loss of liver cells around the hepatic veins. On the other hand, many similar cases were found in which there was no destruction of liver cells. Cases are cited to show that necrosis, and not long-continued congestion, is the primary factor in livers in which the cells have disappeared about the central veins. Cases of central necrosis of this kind are due to toxins, they may be complicated by being of the haemorrhagic type and therefore resemble chronic passive congestion.

Haemorrhagic necrosis of the liver is a very frequent complication of chronic passive congestion of the liver, and it probably occurs only in cases of cardiac insufficiency.

ALBANY MEDICAL ANNALS

Original Communications

THE PATHOLOGY OF TUBERCULOSIS OF THE BREAST.

BY CHARLES G. CUMSTON, M. D.,

Boston, Mass.

Although tuberculosis as a local disease in the breast, either of the male or female, is a rare condition, still many cases of the affection have been reported, one by myself in the *International Clinics* for January, 1897, and since then two more typical examples have been under my observation.

Taking it for granted that the reader is fully familiar with the normal anatomy of the female breast, I will enter immediately upon the description of the pathological anatomy of tuberculosis of the organ. We may divide tubercular lesions of the mammary gland into three types: First, disseminated tuberculosis; second, confluent tubercles; and thirdly, intra-mammary tubercular abscess. Those tubercular abscesses which are found near the gland, and are situated either above or in front of it, will not be considered in this paper, as they do not enter, properly speaking, into the subject, and, therefore, the three types above mentioned will alone be discussed.

Tubercular abscess of the breast is, as has been said, infrequent, and up to the present time no case has been reported, that I am aware of, occurring before puberty; they have been observed in married and unmarried women, who have presented the stigmata of scrofula or tuberculosis, and I must say at once that their cause has generally been entirely ignored. These abscesses may be more or less encysted, and their shape may be so characteristic of certain neoplasms, that breasts have been amputated by the surgeon, who thought he was dealing with a malignant tumor, while in reality the disease was a simple cold abscess. Tubercular abscess usually develops after labor or a miscarriage. Their progress is very slow, extends over several months and

produces a retraction of the nipple and a slight oedema of the neighboring tissues. This abscess is surrounded by a layer of connective tissue, which in many cases is quite thick but not so much so as in confluent tuberculosis. This layer of connective tissue differs from that found in confluent tuberculosis by the absence of small tubercles disseminated in the walls. This surrounding layer of connective tissue is the result of an inflammatory process which limits the purulent focus and thus prevents the remainder of the gland from becoming invaded by the infectious process. Disseminated tubercles are not found around these abscesses. The surrounding connective tissue is lined by a fungous false membrane, having a violet red color, and is characteristic of cold abscess in general. The contents are a more or less purulent liquid, in which blood and a large number of caseous lumps are present.

In other words, they are identical with tubercular abscess found in other parts of the body, and it is their intra-glandular seat which is their principal characteristic, distinguishing them either from superficial or retro-mammary abscess of the breast. Roux believes that it is probable a microscopical examination will reveal the presence of tubercles and of bacilli, principally in the false membrane lining the cavity, as is found in cold abscess in other regions.

Considering now disseminated tubercles, it may be said that the breast is not increased in size, or, if so, only very slightly, and no trace of fistulae can be detected at the surface of the skin. If sections be made in different directions, one will find perfectly distinct foci in the glandular tissue, varying in number, and which are separated from each other by a certain quantity of healthy tissue. The size of these foci may sometimes be as large as an almond, while at others they will not be any larger than a millet seed. In color they are sometimes yellowish, sometimes grayish. The yellowish center of a certain number of these foci, is surrounded by a bluish-gray translucent zone. The tissue of the breast which surrounds the tubercles will be found normal, both in consistency and color. Occasionally, however, it may be a little thickened in small extent around the foci.

Now, if one picks up one of the tubercular nodes between the fingers, he will perceive that they have a firm consistency and are quite resisting, but will not have much difficulty in flattening them out, because they are friable. Some of them may be slightly

softened at the centre, but generally speaking one will not find the liquid, pasty mass that is found stuck to the walls of the cavities found in the third variety.

To sum up, we find deposits of tubercular matter indicating caseous degeneration in the parenchyma of the breast. They are to a certain extent separated by the glandular tissue, which is slightly irritated and becomes fibrous; these deposits of tubercular matter are surrounded by a sort of barrier which prevents the disease from continuing its invasion.

When confluent tubercles are present, the breast is generally increased in size, but the swelling is not found equally over the entire gland. It is generally the upper and external quarter of the gland which is the seat of the tumefaction. One will here notice one or several fistulous orifices presenting all the characters of tuberculosis, while the skin surrounding them is thin, shining and of a violet hue. A sero-purulent liquid is exuded, and the nipple will be found retracted and often surrounded by fistulae. Now, if one will take hold of the gland, an induration about the size of a hen's egg will be found, and which is generally movable with the gland, its surface being covered with slight projections and depressions. In the parts which are not in a state of tumefaction, one will perhaps be able to recognize the presence of a few movable lumps. The contents of these cavities are a serous pus, in which we find large caseous masses.

When sections are made, it will be found that the cavities in the tumor are irregular, rounded or flat, and send off a large number of diverticuli. Some of the neighboring cavities might be regarded at first sight as independent of the largest one, but a careful examination will show that they are all united one to the other by very small sinuses. The walls of the cavities and the sinuses are rough and present little depressions and projections produced by a filling up of the parenchyma, and which in some places gives it the appearance of areolar structures. The central fistulae communicate exteriorly by one or several fistulae. On the internal aspect of the cavities and the fistulae a kind of soft grayish or yellow-grayish membrane will be found at some parts, while extremely fine villosities of a grayish color are directed towards the interior of the cavity. This membrane varies in thickness according to the part of the cavity in which it is examined and is easily removed by the sharp spoon. Around the cavity the tissue of the gland is indurated to a considerable

extent and may even attain a thickness of three centimeters. This indurated tissue is whitish in color and looks fibrous in nature. If it is examined macroscopically, clusters of small nodules, which feel about the size of a pin's head, and project on the surface, may be seen. They have a grayish color and a distinct transparency; some, however, are opaque in the centre. These nodular clusters, which are nothing more or less than tubercles, are quite normal in the walls of the central cavity, but a large number may also be met with beyond the indurated tissues in what appears to be healthy tissue. They sometimes are found in little masses, and the tissue of the gland which surrounds them is harder and redder than elsewhere.

The thickness of the fibrous layer which surrounds these cavities is characteristic of the confluent type of tuberculosis of the breast and distinguishes it from the intra-glandular tubercular abscess, which has already been mentioned. Besides, the presence of disseminated tubercles in the thickness of the walls of this lining tissue is also an excellent sign in differentiating confluent tubercles from tubercular abscess. It is also the same when you find disseminated tubercles in the gland tissue in the neighborhood of the growth, and which at first sight appears healthy. We have, consequently, in confluent tubercles a cavity which is quite large and irregular, hollowed out in the parenchyma of the gland, surrounded by a thick, hard, irregular tissue which shows tubercles on section; the internal surface is soft, grayish, and contains a serous liquid filled with caseous masses. The lymphatic glands which are connected with the diseased breast are usually invaded by the disease. Out of 34 cases of tuberculosis of the breast Roux found that the axillary glands were increased in size in 22 patients, and it is quite natural that this should occur in an organ which is as richly supplied by the lymphatics as is the breast. Whether one is dealing with a tubercular abscess, disseminated or confluent tubercles, an adenitis in the axilla on the same side as the diseased breast will nearly always be found, indicating an extension of the tuberculosis. The diseased glands vary in number and in size, according to the case. They sometimes form large bunches surrounded by a very marked periadenitis, so that ligation of the vein and artery is absolutely necessary, when complete removal is undertaken.

In many cases the glands will have undergone suppuration,

and fistulae will be present, giving issue to a serous pus, exactly the same as in the gland tissue itself. The adenitis is less marked in cases of tubercular abscess of the breast, and then one will almost always only find a simple adenitis without any trace of suppuration, but in some cases enlarged glands in the axilla cannot even be detected. Sometimes the glands were apparently diseased before the lesion in the breast occurred.

A patient with tuberculosis of the breast is often the subject of the same infectious process in other parts of the body, principally in the lungs, and it may be said that it is a very infrequent occurrence that the mammary gland is the only organ which is the seat of the disease.

Microscopical examination of cold abscess presents for our study the contents of the cavity and its walls. The contents are pus, identical to that which is found in any tubercular abscess. It is more or less serous and contains caseous masses; uncoagulated blood is often mixed with the pus in considerable quantity and then it will give a light coffee color to the liquid.

The cavity may be either a simple one or multilocular. When it is single, it is rounded or oval in shape; the latter is the more frequent. When it is multilocular, the partitions of the cavities are made up of cellular or aponeurotic tissue, and the cavities communicate one with the other by small sinuses. As microscopical examination has not to my knowledge been made of these cavities, we will have to suppose that they are similar to tubercular abscesses in other parts of the body, and that their walls are made up of young embryonal cells placed without order or grouped around a giant cell. From time to time one will find in these groups of cells hemorrhagic foci produced by the embryonal capillaries, as well as caseous masses. Cell proliferation is probably especially active at the external aspect of the wall; on the internal aspect, on the contrary, the cell masses would appear to indicate degeneration and are shed into the cavity of the abscess.

In the membrane itself one would probably find irregular cavities in formation and open follicles in the pocket of the abscess. I have already mentioned the presence of embryonal cell masses in certain parts of the wall; these masses may be present in two forms. Sometimes giant cells are present and around them a group of large epithelioid cells, and lastly a variable quantity of embryonal cells; or there may be complete absence of the

central giant cell, and the agglomeration will be found to be made up entirely of embryonal cells. Follicles and nodules having a similar evolution, the central cells become granular and then indicate caseification.

The peripheral cells alone remain for a certain time, and finally they are destroyed in their turn. Then, as I have pointed out, the vitality of the cells is very much greater at the external than at the internal aspect of the wall, and finally the latter becomes destroyed, from which results an opening of the follicles into the cavity. If this destruction does not take place, the section will show a cavity below the caseous matter but variable in size, and often one, two or several foci will be found united. Outside of the false membrane which we have just studied, will be found a layer of connective tissue of no great thickness, produced by the inflammatory process, and by its presence prevents invasion of the lesions to the structures beyond. Beyond this layer of connective tissue we find healthy gland tissue, which may be more or less compressed in the immediate neighborhood of the connective tissue, but as we go further away from the latter, the gland tissue again becomes normal.

In disseminated tuberculosis of the mammary gland the same anatomical condition exists as in this disease when developed in other organs; or the granulation may be isolated and upon examination shows an accumulation of embryonal cells with one or two giant cells. These are surrounded by a zone of proliferation, in which dilated vessels are often found, while the granulations themselves are anemic and only partially transparent.

Now, this is the very simplest form of this disease, but sometimes the simple tubercles are lying one beside the other, or even molded together, and we then have the nucleus of a disseminated tuberculosis, which may reach the size of a peanut or more. •In this case the granulations are not included in the same mass of embryonal tissue, and each granulation shows a cell atrophy, similar to gummata; but in each tubercular granulation the vessels become occluded at an early date, and the vessels made up of embryonal tissue also become clogged shortly afterwards, with the result that the granulations being only separated one from the other by a fragile and soft tissue, become united and form an anemic mass, in which it is impossible to recognize them macroscopically. Very soon the entire mass becomes uniformly opaque and softens, and then caseous degeneration has taken place.

This is what occurs in old tubercular granulations and may be attributed to the occlusion of the vessels. Around this tubercular node there is also a zone of hyperemia, and the tubercular masses act on the neighboring parts which are still living, as would a foreign body, and inflammation is the consequence. The tubercular mass remains inclosed in the healthy parenchyma, becomes dried up, so to speak, and undergoes calcareous transformation, but this degeneration is extremely infrequent.

Usually these caseous foci remain as such for a variable length of time, and then several become united and form the third type of tuberculosis of the breast, which is by far the most important, namely, the confluent type.

In this form several lesions may be considered, according to that part of the organ which is the seat of the disease. We have lesions of the interlobar and interlobular tissue, as well as that of the lobular tissue, and lastly the vessels and nerves.

For the interlobar and interlobular tissue the tubercular granulations are formed by a mass of round embryonal cells, in which epitheloid cells having nuclei are found mixed up with them; the epitheloid cells are larger than the embryonal cells and are seen in the centre of the granulations. These granulations are either found in the midst of the connective tissue, or in the immediate neighborhood of the capillaries and the galactophorous canals. The make-up of these granulations appears to become natural the further away we get from the fistulous tracts. Now a granulation which is situated at a certain distance from a fistula will be found in the form of a mass containing embryonal cells with or without epitheloid cells, but there is no process of degeneration present, while those found near the fistula are made up of tubercular granulations having undergone degeneration, principally in the centre, and show a characteristic caseous degeneration, extending from the centre to the periphery of the granulation.

The cell infiltration that is met with in the interlobular or lobular tissue does not always appear in the form of rounded granulations, because we may also meet with irregular lines of cells, extending along the vessels, as, for example, embryonal cells, identical to those which compose the granulations. These lines of cells indicate the same metamorphosis according to whether they are found along the fistula or in its neighborhood. The parts of the interlobular tissue situated at a distance from the fistula will be found perfectly healthy.

The reaction produced on the connective tissue by a more or less considerable extension of the granulations or the diffused cell infiltration follows the same progress. Consequently, in these parts, where the disease is only slight, the connective tissue will not react to any degree; at the most there will only be a very slight proliferation around the foci of disease. Near the fistulae it is not the same and the severe struggle against the invasion of the process produces a considerable proliferation. A marked reaction occurs in the form of connective tissue proliferation, thus setting up a barrier against the invasion of the tubercles, and thus we may explain the thickness of the tissue which surrounds the focus of a confluent tuberculosis or the fistulae which communicate from the focus to the skin.

Considering now the lesions that are observed in the lobular type, I may say that they are the same as for the interlobular and lobular, and in the first place let us consider what takes place along the fistula where the connective tissue is only slightly attacked. We may easily distinguish in this part, at the centre of the section of several acini with their cells distinctly visible, a hyalin membrane which limits them, and beyond this we have concentric connective tissue fibres. In this zone an infiltration of embryonal cells may already be found, extending between the hyalin membrane and the concentric connective tissue fibres. The cells of the acini are as yet intact or nearly so. As we get nearer the fistulae, that is to say, the nearer we get to the parts where the lesions are more advanced, we will find embryonal cells in greater numbers. The glandular tissue is surrounded on all parts in such a way that the limiting membrane is not sufficiently strong to resist, so that the embryonal cells break into the acini over a variable extent; the quarter, half, or even the entire circumference of the acinus may thus be destroyed.

What takes place in the acini occurs also in the glandular ducts. The cell infiltration compresses these canals, thus diminishing their calibre at the point of compression, and this may be so considerable that the canal may be cut into and its continuity destroyed. It is to be remarked that the glandular element, as in all inflammation, develops considerably under the influence of the embryonal proliferation of the neighboring parts, and the diameter of the acini is very much increased.

If we now examine the region of the fistulae, the sections made in their neighborhood will show rounded spaces filled with grayish

or yellowish granulations. On this granular background small, oval, triangular elements of a red or orange color are seen. This granular mass is made up of embryonal and epithelial cells, which have undergone a caseous degeneration, while the large red elements are parts of the culs-de-sac of the glands or ducts which have been equally involved by the process. They are made up of epithelial cells and the glands which have become more or less altered, while the limiting membrane on which they rest in the normal condition is found to be more or less well preserved.

Giant cells are seen in large numbers. They have a variable form, being either circular or elongated and occasionally present prolongations. They are made up of a granular protoplasm and a large number of nuclei are found at their periphery; their circumference is sometimes marked by a simple demarkation line, or sometimes by a hyalin space, identical to the limiting membrane of the acini.

Dubar saw in some of the giant cells inside of the circle of nuclei, a few epithelial cells which were perfectly recognizable, and Roux says that, in accord with Dubar, the cell elements are nuclei, or in other words, giant cells are nothing less than pseudo-cells made up from the acini of the gland, and that the remains of epithelial cells in their interior goes still further to confirm this fact.

The seat of the giant cells in the center of the degenerated lobule, with more or less complete preservation of the hyalin membrane, the presence of epithelial cells in the midst of the protoplasma, are the conditions which led Dubar to the following conclusions, namely, that the giant cells are not elements of new formation in tuberculosis of the breast; secondly, the giant cells may be either the degenerated cells of the acini, or sections of the glandular culs-de-sac or primary ducts, whose centre is filled up with degenerated embryonal cells; and thirdly, the giant cell is in no way specific of tuberculosis.

Orthmann is also of the same opinion as Dubar, while Ohnacker contests the direct transformation of the acini and the canalicules into giant cells. Near the fistulous tracts in proximity to the glandular portion, which is in a caseous condition, and in the centre of which giant cells with indistinct nuclei may still be seen in these parts, that is to say, near the fistula, the lesions are so advanced that the degeneration has attained its maximum; the

organ is destroyed, and it becomes so disintegrated that little by little it is eliminated through the fistula.

Now to finish with the histology of confluent tuberculosis, we must examine the vessels and the nerves. According to Cornil, Ranvier and others, the distinguishing point between syphilitic gummata and tubercles, is that in the former affection the vessels remain perfectly patent up to a very advanced state of the disease, while in tubercular diseases they are very rapidly obliterated. Now in point of fact, along the fistulous tracts, that is to say in the parts where the disease is at its beginning, you will still meet with considerable blood supply. When the lesion is more advanced the capillaries are few in number. Caseous degeneration, which is explained by this latter fact, is the result of a cloudy tumefaction, the result of the blood supply being cut off. Both these phenomena are dependent one upon the other. For the arteries and the veins of larger calibre the internal membrane, principally of the arteries, is the seat of disease more especially, and vessels of medium size present this in their greatest extent. These lesions are characterized by an abnormal proliferation of the endothelial layer, and thus obliterating endarteritis is to be found in the greater number of the vessels supplying the breast. The rough surface holds back the leucocytes, as they are running through the vessel, and this is the first phenomena of obliteration.

It is well known that the lymphatics are very developed in the breast, and they naturally become rapidly influenced by the cell infiltration so marked in tuberculosis of the organ, and Dubar attributes the precocious swelling of the glands of the axilla on the side corresponding to the diseased breast, to this fact.

When dealing with a supposed tubercular disease, we usually endeavor to find Koch's bacillus, but it is not necessary to demonstrate this organism in order to diagnosticate a tubercular process, and the microscopical diagnosis may be made on account of its characters. Nevertheless, it is weighty proof if the bacillus of tuberculosis can be found and demonstrated, and it should always be searched for and has been discovered in a number of cases of tuberculosis of the breast. Tuberculosis of the lymphatics in cases of tuberculosis of the breast differs in no way from that met in other regions of the body, and consequently I will not insist upon the pathology.

The question now comes as to whether tuberculosis of the breast is primary or secondary, and Piscacek considers three

forms: First, a tuberculosis by continuity, produced by the extension of the bacteria which have invaded the neighboring organs; this variety is not infrequent, because of the great number of tubercular affections of the ribs and sternum. In this category we could also include the retro-mammary cold abscess which may extend into the gland, as well as the cases in which a tubercular focus in the pleural cavity perforates the costal spaces and thus invades the gland. In the second place tuberculosis may reach the breast by the way of the blood vessels and the lymphatics. The starting point will be a primary focus situated at some distance from the breast, and in this case it is merely a new localization of the disease which has already invaded the organism at other points. This is the most frequent form, and here we have a secondary tuberculosis. And lastly, it may be possible that the breast is the seat of a primary tuberculosis without any other lesion in the body, and, although this form is very infrequent, there is no reason why it should not really exist, and in two of my cases this was apparently so.

We may consequently divide tuberculosis of the breast into a primary form and a secondary form. The first would represent a patient whose organism was perfectly free from any other manifestation of tuberculosis, excepting in the breast, or at least if there were any other manifestations, they would follow the process in the mammary gland. In the secondary type, the patient would present the disease in some other organ of the body, the mammary gland becoming invaded afterwards. The secondary form, as I have already said, is by far the most frequent.

LOCAL ANESTHESIA.

Read before the Medical Society of the County of Albany, April 27, 1910.

By ALVAH H. TRAVER, M. D.,

Assistant Attending Surgeon, Albany Hospital.

As I understand it, my paper is not to be the main paper of the evening, but was asked for simply to fill in one part of the discussion on anesthesia. I will therefore make no endeavor to give a very exhaustive study on local anesthesia, but rather to

state its advantages over general anesthesia in quite a variety of cases in which I have used it.

There are two main ways of producing local anesthesia:

1st—Injecting the anesthetic substance directly into the nerve supplying the part, or

2nd—By applying or injecting the anesthetic directly into the part to be anesthetized.

I have never tried the first method to any extent so will limit my remarks to the second method, *i. e.*, the application to, or injection into the part on which operation is intended.

One of the simplest ways to produce a slight local anesthesia is by the application of ice to the part, or still more easily by spraying the part with ethyl-chloride. This is useful only in slight operations which are of short duration, as the opening of an abscess, for instance. This is not entirely free from danger as it may cause superficial sloughing, neither is it a very satisfactory anesthetic as there is some pain caused by the part freezing and still more by the parts thawing, and in my opinion, the total pain caused by the freezing and thawing is nearly equivalent to the pain suffered if no anesthetic had been used.

Another way of obtaining superficial anesthesia is the application of ninety-five per cent. of carbolic acid. I have found this useful to apply to chancroids before the application of nitric acid for by so doing the patient suffers much less pain than if the nitric acid is applied alone.

By far the most satisfactory local anesthesia is obtained by the injection directly into the tissues of substances that act on the sensory nerve endings.

The success of the anesthesia depends on the careful manner in which the injection is made.

The needle should be introduced into the skin, not through it, and a small injection made. A white elevation appears. Now do not withdraw the needle, but force it along parallel with the skin injecting the anesthetic as the needle advances. By so doing, there is no pain after the first introduction of the needle. Now that the skin, the most sensitive part is anesthetized, you can, if thought desirable, inject the deeper tissues as well, but I prefer to make incision after having injected the skin, then inject the tissues as I proceed with the operation.

A fair degree of anesthesia can be obtained by the proper infiltration of the tissues with cold water or normal saline solution.

Several times I have opened abscesses or removed slivers by injecting water as I had no cocaine with me. The water or saline is soon absorbed and the nerves regain their sensitiveness, so it is necessary to inject a substance that in weak solution will paralyze the sensory nerves without having a lasting bad effect on them.

Several such substances are on the market. Cocaine was the first used and if used with care is practically free from danger. Yet the following substances, alypin, stovain, novocaine, can be used in like manner and are less poisonous.

If the anesthetic substance can be retained in the tissues a much better result can be obtained. In some parts of the body as the fingers, the application of a rubber tube will keep the solution in the part. In locations where no tube or other device can be applied to retain the cocaine, the addition of adrenalin to the solution injected will constrict the blood vessels and so delay absorption and lengthen the period of anesthesia. In old people whose blood vessels are poor adrenalin may still more interfere with the circulation and so perhaps tend to cause gangrene in the flaps.

The preparation that I have been in the habit of using is one-half of one per cent cocaine in 1-10,000 adrenalin in a saturated solution of chlorotone. By using this weak solution of cocaine larger quantities can be used which act more favorably than smaller quantities of a stronger solution. The adrenalin aids and prolongs the action of the cocaine and the chlorotone will preserve the solution for some time especially if made up in small bottles and kept corked in a dark place. If the solution becomes red or cloudy it should not be used.

Alypin, stovain or novocaine have the advantage over cocaine in that they are not spoiled by heat and are far less poisonous, but stovain is somewhat irritant to the tissues and some operators claim should not be used in conjunction with adrenalin. Suprarenin synthetical also has the advantage over adrenalin that it can be boiled.

A very convenient tablet is on the market (Shark and Dohme) of novocaine and suprarenin synthetical which can easily be carried about, keeps indefinitely and in case you wish to use it, simply throw it into water, boil it and you have your sterile solution ready for use.

Advantage of local over general anesthesia is that many patients have less fear of it so will undergo operations which they would not if they had to take ether. It is not accompanied by nausea so the patient can soon take nourishment, does not require patient's staying in bed except in major operations, which is especially important in old people. It has practically no effect on the heart or kidneys; can be safely used where patient has asthma or when suffering from bronchitis. There are many limitations to local anesthesia, as for instance, a very nervous patient is unable to lie still so operations about large blood vessels or other important structures are dangerous. There are many operations that cannot be performed under local anesthesia, as those on the brain, kidney, etc.

My manner of proceeding with local anesthesia is as follows: Patient should be examined and prepared as for ether, except that you need not stop the use of water as in ether cases. One-half hour previous to operation, I have given a hypodermic of morphine and atropin. Before beginning to operate, I endeavor to gain the confidence of the patients, telling them that, while it will hurt some, yet they can easily stand it and I will use more cocaine whenever they tell me I am hurting them, and if I think I am going to cause pain as in the first skin injection I tell them what I am going to do and that it will pain somewhat. In other words, try to keep them from getting nervous, if possible, get someone to visit with them and thus keep their minds off their operation. All persons present should remember that the patient is conscious so never express a discouraging statement, as in strangulated hernia, say that the intestine is gangrenous. It is very helpful to the patient to have you state occasionally that the operation is going on nicely and will soon be completed.

Always cut the tissues with a knife not with scissors, be careful in catching blood-vessels as they are apt to be sensitive. If there are fair sized nerves in the operative field, it is well to inject them. Above all things go carefully and slowly and don't hurt and scare the patients as they will not keep still again if they are once thoroughly excited.

Kinds of Cases.—Nearly all operations have been performed under local anesthesia. I will not give a list of them, but will speak of some cases where I have found it very useful. As in my case records, I have kept a list of the kind of operations performed rather than the anesthetics used, I find it a little difficult

to look up the cases in which local anesthetics were employed. The following are some of the cases in which I remember to have used local anesthesia and in which I have found it satisfactory.

OPERATIONS.

As many cases of empyema follow pneumonia, the patient is in a very weak condition, the lungs are only partly recovered from the pneumonia and the respirations are embarrassed by the pressure of the fluid, so they are bad patients for general anesthesia. I have found no difficulty in resecting the rib under cocaine anesthesia, the patient suffering but little pain except as the rib is cut.

Appendicular abscesses can be satisfactorily opened under local anesthesia. I operated on a case of a woman 73 years of age who had such a bad heart that general anesthesia would have been dangerous, in fact about one month after leaving the hospital, while the patient was eating her supper, she suddenly fell over dead.

I have opened the gall bladder under local anesthesia without difficulty in patients in which I feared to administer a general anesthesia.

All superficial tumors as lipoma, adenoma breast, sebaceous cysts, etc., are easily removed under cocaine.

Amputation of fingers, toes or ingrown toe nail operations can be satisfactorily performed under local anesthesia.

I have performed suprapubic cystotomy under local anesthesia in old men where I feared to give ether.

In mild cases of hemorrhoids, operation can be satisfactorily performed under local anesthesia.

I have purposely left, till the last, two classes of cases in which local anesthesia finds its most useful place among major operations. These are in cases of goitre and strangulated hernia.

In the very bad cases of goitre, general anesthesia is badly borne. About one year ago I removed under local anesthesia a large goitre from an exceedingly nervous patient who had a pulse 160 and whose breathing was so difficult that she had been unable to lie down for a week, in fact while we were operating we were obliged to have the patient's head elevated at some distance from the operating table.

Any case of hernia, in which there are not too firm adhesions, is exceedingly satisfactory for local anesthesia.

In strangulated hernia, I have had quite large experience with local anesthesia.

I now recall eleven cases of strangulated hernia in old people that I have operated upon under local anesthesia with only one death, which is a good showing when the ages of the patients are taken into consideration. The ages were as follows: One case age fifty-six, one case sixty, three cases sixty-five, two cases sixty-eight, one case, sixty-nine, two cases, seventy, one case seventy-two.

In one of the cases, age sixty-five years, I operated upon a strangulated hernia and the patient suffered so little that he allowed me to operate at the same time on the other side, which was not strangulated.

The one case that died was a woman seventy-two years old who had had a small femoral hernia for about twenty years, and had often had attacks of vomiting which would soon subside; so, at this time, she had been vomiting for two days before a physician was called, and was in a very weak condition. The ambulance physician reported to me that he feared that she was going to die in the ambulance. It would probably have been just as well had I not tried to do anything for her in her feeble condition, but I was not working to keep down mortality statistics, but thought it advisable to take even the slight chance of the operation as she would have soon died anyway.

I have said nothing of spinal cocainization, hyoscin, and morphine anesthesia, as I hardly think that they are within the scope of this paper.

In conclusion let me state that local anesthetics are not satisfactory with operators who are anxious to perform operations rapidly, or with operators who are rough in handling the tissues. It takes much longer to perform operations under local anesthesia, and an operator who is rough and scares and hurts the patient, will never succeed in doing satisfactory surgery with local anesthesia.

THE CLINICAL SIGNIFICANCE OF SUBFEBRILE TEMPERATURE IN PULMONARY TUBERCULOSIS.

PRELIMINARY COMMUNICATION.

Read at the Annual Meeting of the Medical Society of the State of New York, January 25, 1910.

By ARTHUR T. LAIRD, M. D.,
Albany, N. Y.

The term "subfebrile temperature," in this paper, is used according to the definition of Wunderlich,¹ to represent slight elevations of the temperature above the normal, extending from about 99.3° to 100.4° F. (37.4° to 38° C.). The readings given refer to mouth temperature.

NORMAL TEMPERATURE.

The arrow on the clinical thermometer represents the mean of the daily variation of temperature in a large number of apparently healthy individuals. The statements regarding normal temperature found in text-books are largely based on the studies of Wunderlich, Liebermeister, Von Barendsprung and others about the middle of the last century. Though in the main the conclusions have stood the test of time, the whole subject should be investigated anew. Latent disease in apparently healthy people may be, as Wunderlich recognized, a source of error in such studies and to-day we have in the tuberculin tests and the Wasserman reaction means for detecting such conditions which were not available to him.

As is well known, each individual has his own temperature curve. The lower limit, which may be 97° F. (36.2° C.) is ordinarily reached soon after midnight and the upper limit, which has been given by Wunderlich and others as 99.5° F. (37.5° C.), sometime between five and eight o'clock. People who work at night are said to have an inverted curve. The normal mean for any individual may then be either above or below the arrow mark, providing the assigned limits are correct. The factors which cause the daily variations are as we would expect principally those which cause alterations in metabolism, heat loss or heat

¹Wunderlich. On the Temperature in Diseases. The New Sydenham Society, London, 1871 (Translation).

production, or affect the heat regulating mechanism. They are rest, sleep, the digestive processes, physical exercise, mental exertion, long continuance in a heated atmosphere, exposure to cold etc.

Heat regulation in children and the aged is said to be somewhat less perfect than in middle life, and in men than in women. In women, the normal temperature is said to be slightly higher than in men. Menstruation may be accompanied by a slight rise in temperature. Even in health various exceptional influences may cause a rise beyond the extreme normal limits. Mountain climbing and severe physical exercise of other sorts are reported to have raised the temperature of healthy individuals as high as to 104° F. After such occurrences the normal level is quickly regained.

Though more observations on healthy persons should be made, it is reasonably well established that the variations of temperature in health are slight under the ordinary conditions of life and that any elevation above 99.5° F. (37.5° C.) should be considered pathological. It is questionable whether this is not too high a limit for the majority of well people and whether 99° F. (37.2° C.) or 99.2° F. (37.3° C.), should not be considered abnormal unless it can be shown that the patient's normal mean has always been above 98.6° F. Such cases have been reported² but are probably rare.

CAUSES OF SUBFEBRILE TEMPERATURE.

Tuberculosis.—According to an old German saying, in the presence of continued fever one's first thought should be of tuberculosis. This, however, should not be only of pulmonary tuberculosis. As Moffitt states, it is not at all uncommon to see children or young adults with long-continued, or more rarely recurrent, pyrexia dependent upon tuberculosis of the mediastinal, mesenteric or retroperitoneal glands and the process may go on to healing without involving the lungs at all. Tuberculosis in various other situations may be accompanied by subfebrile temperature.³

Syphilis.—The frequency and importance of fever as a symp-

²S. Weir Mitchell. Discussion of Dr. Moffitt's paper on "Long Continued Fevers." Transactions Association of American Physicians. 1907, xxii, 495.

³Moffitt. Long Continued Fevers. Transactions Association of American Physicians. 1907, xxii, 495.

tom of syphilis, especially of the secondary stage, is scarcely as well recognized as it should be. It may be, according to Osler, a mild continuous pyrexia, not rising above 101° F. (38.4° C.), or it may be distinctly remittent or intermittent in type. Janeway has called attention to cases in which a diagnosis of pulmonary tuberculosis has been made.

Sepsis.—Richard C. Cabot⁴ recently made a summary of the autopsy records of the Massachusetts General Hospital for four years, with reference to long-continued fevers and their classification. Over 90 per cent. of all long-continued fevers of more than two weeks' duration fell under three heads: typhoid fever, sepsis and tuberculosis. Of the septic fevers one of the commonest forms in obscure cases is that due to chronic endocarditis.

Moffitt⁵ in a paper before the Association of American Physicians mentions many other causes for continued or intermittent fever, among them: Hodgkins disease, Malta fever, malignant disease, especially of the liver, as carcinoma, or sarcoma, intermittent hepatic fever, Charcot's intermittent fever, gall stone fever, typhoid fever with repeated relapses, pyelitis, renal lithiasis.

In malaria the plasmodium should be found in the blood if sufficient examinations are made.

While nervous dyspepsia is usually afebrile, Leven⁶ claims that many dyspeptics are treated for pulmonary tuberculosis who do not have the disease and describes a special type of pseudo-tuberculous dyspeptics in whom there may be slight elevation of temperature and other symptoms of tuberculosis of the lungs, and who are frequently treated as tuberculous.

DuBois⁷ makes a similar statement regarding neurasthenics. On the other hand it must not be forgotten that true cases of consumption are often for a long time treated as cases of dyspepsia, chlorosis or nervous prostration.

Persistent chronic bronchitis may be accompanied by slight fever according to Brown.⁸ He also states that persistent fever may be due to pyorrhea alveolaris.

⁴R. C. Cabot. *The Three Long Continued Fevers of New England.* Boston *Medical and Surgical Journal.* 1907, clvii.

⁵Moffitt. Long Continued Fevers. *Transactions Association of American Physicians.* 1907, xxii, 475.

⁶Leven. *Revue de la Tuberculose.* 1908, v, 193.

⁷DuBois. *The Psychic Treatment of Nervous Disorders.* New York. Funk and Wagnalls. 1908.

⁸Brown. *Osler's Modern Medicine.* Vol. III.

SUBFEBRILE TEMPERATURE AS A SYMPTOM OF PULMONARY TUBERCULOSIS.

Repeated slight elevation of temperature is certainly one of the cardinal symptoms of incipient pulmonary tuberculosis. That it is not pathognomonic is shown by its occurrence in the conditions just mentioned.

It may be due to incipient tuberculosis in the lungs even when physical signs in the chest are entirely negative, just as there may be no abnormal signs in the chest, when there have been definite hemoptyses, or though tubercle bacilli are found in the sputum.

The tuberculous patient is extremely sensitive to all causes tending to elevate the temperature. This instability in persons usually without fever is in itself an excellent symptom of tuberculosis. A febrile reaction immediately following exertion is especially characteristic and is the significant feature of the so-called "walking test." Exertion that would cause scarcely any elevation of temperature in a healthy person may produce decided fever in a consumptive.

Every type of fever may occur in tuberculosis,⁹ but in the usual type the temperature is normal or subnormal in the morning and rises to about 99.5° or 100° F. in the afternoon. This same type of temperature, as well as the exaggerated reaction to slight influences, exists in connection with other pathological conditions. Attacks of ephemeral and unexplained fever are, however, in a large proportion of cases, due to underlying tuberculous processes. In such cases definite signs of pulmonary tuberculosis may develop after months or years.

LIMITATIONS OF CERTAIN CONFIRMATORY TESTS.

In the absence of definite symptoms and signs of sufficient number and importance to settle the diagnosis we turn to the tuberculin test and X-Ray examinations for confirmation of our suspicions. One of the disadvantages connected with the use of such tests is that they are very delicate. They may reveal the presence of tuberculous infection that is not of clinical importance.

It is well known that many individuals recover from tuberculous infection without developing consumption and even without

⁹Brown. Osler's Modern Medicine. Vol. III.

it being discovered that they have any tuberculosis about them. As to the frequency of tuberculous infection in general, Nägeli found¹⁰ what appeared to him to be evidences of tuberculosis in 99 per cent. of 500 autopsies and Burkhardt in 91 per cent. of 1,262 sections. These figures are doubtless too high for the general population, since the material was taken from hospitals in the manufacturing cities of Zurich and Dresden. As Baldwin states, "the percentages estimated by most pathologists who usually regarded only gross appearances in determining tuberculous foci, vary between 30 and 60 per cent. for all sections. Probably the recent estimate of Harbitz of from 50 to 70 per cent. for all ages is approximately correct."

The tuberculin and X-Ray tests make it possible for us to detect the presence of slight tuberculous infection. No attempt has been made by the writer to summarize all the various reports on the use of these tests which have appeared in recent literature, but the following figures will illustrate the point. In 1902 the subcutaneous tuberculin test was given to 1,000 of the more robust soldiers in the Austrian army,¹¹ not more than three milligrams of tuberculin being used. Only 64 of the 575 reacting positively have shown signs of clinical tuberculosis up to 1909. As regards the cutaneous or Von Pirquet test, at first thought it seems a delightfully easy test which relieves the physician of thorough study of the case. A patient comes into the office with a slight cough and a temperature a little above normal the test is applied, a positive reaction is obtained and, presto, the patient has tuberculosis. He must close up his business and go to a sanitarium at once. However, the matter is not so simple. The frequent occurrence of the reaction in healthy people lessens its diagnostic value, as regards clinical tuberculosis, very considerably. For instance, of 794 persons in whom tuberculosis was not suspected 25 per cent. showed a positive reaction,¹² the test being applied by different workers in various ways. The writer, using undiluted old tuberculin according to Von Pirquet's method, obtained a positive reaction in 45 per cent. of 159 apparently healthy children between the ages of 6 and 15, and in 29 per cent. of 258 children over two years of age. On the other

¹⁰Baldwin. Osler's Modern Medicine. Vol. III.

¹¹K. Franz. Wiener Klinische Wochenschrift. 1909, xxii, No. 28.

¹²Lincoln. Transactions National Association for the Study and Prevention of Tuberculosis. 1908, iv, 263. Journal of the American Medical Association. 1908, li, 1756.

hand there can be no question of the great diagnostic value of the subcutaneous tuberculin test when it is accompanied by an increase of localizing signs in the chest, a true local reaction. This occurs only in a small percentage of early cases and so is of limited value.

A simple positive X-Ray finding does not necessarily mean clinical tuberculosis. The specialist may report that while there are signs of tuberculosis in the chest in the form of small foci in the bronchial glands or about the hilum of the lungs, he does not consider that the lesions are active. The X-Ray findings may be of much value when they indicate considerable extent or definite activity of the process. They have the advantage over tuberculin tests that they may show not only the presence but the site and extent of the lesion. The mere securing of a positive tuberculin reaction or positive X-Ray report does not, then, settle the question as to whether the patient has clinical tuberculosis even if he also has a slight elevation of temperature.

SUBFEBRILE TEMPERATURE AS A GUIDE TO TREATMENT.

On account of the ease and rapidity with which certain cases of pulmonary tuberculosis pass to an incurable stage, there is the necessity for the greatest watchfulness when subfebrile temperature continues. The patient should be given the benefit of any doubt and placed at once under strict hygienic treatment, carried out to the last detail, so as to effectually prevent, if possible, the progress of any tuberculous process in the lung. There is no question also of the general tonic value of such measures. Occasionally, when the full co-operation of the patient can be secured, and the physician thoroughly understands the details of management, this can be done at home; but there is urgent need of preventoriums, convalescent homes and sanatoriums connected with general hospitals, and equipped with conveniences for fresh air and rest treatment, where patients can be observed for a few weeks before being sentenced to complete abandonment of cherished plans. If the subfebrile temperature continues for months without other discoverable cause, the patient should be warned that tuberculosis in the lungs is likely to develop and a careful, well regulated and supervised life should be advised.

When the diagnosis of pulmonary tuberculosis is definitely established, each slight and temporary elevation of temperature does not necessarily mean extension of the tuberculous process.

Patients in whom the toxic effects of the growth of the tubercle bacilli are at all pronounced suffer from a veritable neurosis of the temperature regulating mechanism. This extreme mobility of the temperature makes it respond by extensive variations to the factors producing the very limited excursions represented in the curve of healthy persons. This extreme sensitiveness disappears in large measure as the infection is overcome.

Rise of temperature, if often repeated, and not due to complications, indicates activity of the disease, and under these circumstances treatment must be prompt and radical. It is quite generally agreed that exercise should be strictly limited in the presence of any elevation of temperature and it is a widely accepted plan to forbid exercise if there is repeated elevation above 99° F.

We hear a good deal in these days about the strenuous work successfully done by consumptives at the Frimley sanitarium in England,¹³ but it is not generally recognized that in the work there 99° is considered the danger signal and that any patient who has a temperature of 99° and the slightest headache is immediately ordered to bed.

In the presence of continued subfebrile temperature, it is a safe rule to give the rest cure a thorough trial, lasting for months if necessary.

In this connection it may be of interest to read the following synopses of the history of cases showing long-continued subfebrile temperature with only slight and indefinite physical signs in the lung and few symptoms of pulmonary tuberculosis. The special point to which attention is called is the fact that in spite of repeated slight elevations of temperature there has not been as yet, with one exception, in the cases which could be followed marked increase of physical signs in the chest. The writer hopes to report their subsequent history in another communication. The rapid development of physical signs in one case shows how treacherous the disease is and how necessary it is to keep patients under close supervision until its general tendencies, in them, are determined. The need of better facilities in hospitals is urgent. Allowing a patient with actual incipient pulmonary tuberculosis to engage in active exercise may be followed by most disastrous results. On the other hand slight infection of the glands or even incipient disease of the lungs may sometimes be

¹³M. S. Paterson. Graduated Labor in Pulmonary Tuberculosis. Sixth International Congress, Washington, 1908. Vol. 7, Part II, Section II, p. 886.

cured promptly by insistence on a proper regimen thoroughly taught to the patient in a hospital open-air ward or in a local sanitarium.

In conclusion, subfebrile temperature while a cardinal is not a pathognomonic symptom of pulmonary tuberculosis. Its occurrence does not relieve the physician of the duty of thoroughly studying every aspect of the case. There is urgent need of open air wards in general hospitals where doubtful cases may be studied.

SYNOPSIS OF CASES.

CASE I. Miss —, stenographer, first seen January 22, 1906, complained of weakness, headache diplopia, dysmenorrhea, and chronic indigestion. No tuberculosis in immediate family. Examination of chest, abdomen and pelvis negative as regards infection. Seen at intervals during four years. Temperature almost invariably above 99°, sometimes 100° F., and pulse above 100. Von Pirquet test positive. Has improved in health under general tonic and hygienic treatment. Has taken considerable outdoor exercise. Chest negative December 15, 1909. Temperature, 99.4° F., pulse, 106.

CASE II. Mrs. —, aged 38, nervous temperament, no history of tuberculosis in immediate family. Typhoid fever about 1894. Has had mucous colitis for some years. In October 1907, complained of weakness, loss of appetite, pains in chest and abdomen, sleeplessness, slight cough. Examination of chest at this time was negative. The temperature was between 99° and 100° F. on several occasions. She was given the subcutaneous tuberculin test at a sanitarium in the Adirondacks and reacted to three milligrams O. T., the temperature going to 100.6° F. No increase of physical signs in the chest was noted. She remained at the sanitarium eight months. Her temperature during the entire period was usually between 99° and 100° F. in the afternoon, often reaching the latter point. The physical signs in the chest remained indefinite during her stay in sanitarium. She remained in bed, without exercise, during practically the entire period. After returning home, gradually began to exercise and to do house work. The temperature remained about the same. During the past six months she has been living out of doors and taking the fresh-air cure with moderate exercise. Temperature varies between 99° and 100° F., pulse, 76 to 100 in the afternoon. Now feels quite well, has good appetite, sleeps well. Chest examination, January 2, 1910, shows a few fine rales in lower left lobe.

CASE III. Mr. —, aged 22. Family history negative as to tuberculosis. First seen October, 1908. Complained of weakness. May, 1908, had illness diagnosed as "pleuro-pneumonia with typhoid." Examination of chest October 1908, negative, except for somewhat harsh breathing at one apex. Temperature in three-day two-hour record reached 99.6° and was several times above 99° F. The patient went to Saranac Lake and consulted several specialists who could find no definite signs of trouble in the chest. He refused to have tuberculin tests made. Remained at

Saranac Lake about six months, during which time temperature frequently reached 99.5°. In spite of this fact, he took exercise, walking some days several miles. Returned to Albany in the spring, has since been at work and has felt well.

CASE IV. Miss —. Nervous temperament. About January 1, 1909, complained of slight cough, pain in chest, some loss of weight, tired feeling and chronic indigestion. No family history of tuberculosis. Patient very pale. (About 1906 a blood examination showed anemia of the chlorotic type.) Temperature record for three days in January, 1909, showed 99.6° as the highest point reached. A vacation in the country with rest was advised as chest showed no definite signs of tuberculosis. Indigestion continued with pains in abdomen and chest. The temperature was frequently above 99°, occasionally reaching 100° F. Von Pirquet test positive. Subcutaneous tuberculin test positive, 101.8° F. being reached after the injection of five milligrams O. T. No localizing signs detected during the reaction. Patient advised to go to a sanitarium. She was greatly depressed by the thought that she had tuberculosis and has been extremely discouraged ever since. Did not improve at sanitarium under strict rest in bed. Temperature continued to reach 99.5° F. at frequent intervals. A few rales were heard at the apices while at the sanitarium. She left the sanitarium, after about three months to go to her home in the country and is taking outdoor treatment, but remains in practically the same nervous condition. There has been practically no change in the physical signs up to the last examination, nine months after the first.

CASE V. Miss —, age 20, stenographer. First seen December 24, 1908. No tuberculosis in the family. Has had slight cough with expectoration for some months. No other symptoms except slight elevation of temperature, reaching 99.8° F. Highest point reached in three-day record 99.6° F. Cutaneous test doubtful. Chest examination negative. Sputum negative. Elevated temperature said, by family physician, to have been present some weeks. January 21, 1910.—Report from family that patient has been working steadily in New York City, and is now taking a short vacation. Has been quite well.

CASE VI. Miss —. First seen April 26, 1909. Husband has active pulmonary tuberculosis. No complaint except of slight cough with slight expectoration. No localizing sounds on physical examination. Cutaneous test positive. Sputum negative. X-ray report: No parenchyma involvement. Apices clear but distinct tuberculous involvement about hilum. During four months, afternoon temperature frequently above 99°, several times reaching 99.8° F. Admitted to Raybrook, July 29th. The first examination showed questionable localizing signs at left apex. Subsequent examinations were negative. Has gained sixteen pounds and is now in satisfactory condition for discharge.

CASE VII. Mr. —; clerk. First seen May 26, 1909. Age 26. No family history of tuberculosis. About one month previous to first visit had a cold in head and throat with slight cough. About one week later applied for insurance but was refused, and a few days later at a subsequent examination was told that his right lung was in bad shape. Ex-

amination May 26th by the writer revealed no localizing signs. These findings were confirmed on another occasion and also by another physician. Sputum negative. Temperature May 26, 99.2° F. and reached this or a higher point up to 99.4° F. on several occasions during the following week. The patient returned to business and has spent a strenuous summer and fall. A letter from him January 18th states that he never felt better in his life. He takes vigorous exercise having been an athlete at college and runs in the morning from $\frac{1}{4}$ to $\frac{1}{2}$ a mile on his way to the office.

CASE VIII. Mr. —, printer's helper, age about 19. First seen March 24, 1909. Afternoon temperature usually 99° to 99.6° until June. No localizing signs in the chest detected at first examination. Sputum constantly free from tubercle bacilli. The X-ray examination (Dr. Holding), showed "pronounced *en masse* infiltration of the glands about the hilum of the left lung and scattered conglomerate tubercles in the right lung with haziness of the upper left lobe. This patient was advised to apply for Raybrook and before his admission June 26th, definite localizing signs appeared in the form of fine and moderately coarse rales over the anterior part of the upper left lobe. He has improved steadily at the sanitarium and the physical signs have decreased in extent. His temperature is now normal and there is every prospect that he will be discharged as an apparent cure.

CASE IX. Mr. —, age 19, printer. First seen March 1, 1909. Had slight cough, some loss of weight. Temperature in the afternoon frequently 99.6° F., pulse not above 100. Only doubtful rales at the apices heard on physical examination. Several subsequent chest examinations were entirely negative. Sputum was negative. X-ray examination: Hilum of the lung, clear; Rieders lines of lymphatic tracery in the right lung, the parenchyma of right lung slightly hazy. Scattered calcified tubercles in the parenchyma. Dr. Holding did not think the plate showed evidence of clinical tuberculosis. The patient was admitted to Raybrook June 4th, with slight auscultation changes heard only at left apex. His temperature on admission was 99.6° F., which continued for some time dropping to normal after about four weeks. He continued to have slight exacerbations of temperature to 99.6° F. during the entire course of his treatment, at one time reaching 100° F. He was discharged September 18th, weighing twelve pounds more than at entrance. Since his return to Albany he has been free from all elevation of temperature. An examination in December, 1909, showed doubtful rales at the left apex.

CASE X. Nurse, age 22. Seen by writer in consultation, March 4, 1908. One sister died of tuberculosis. No serious illness except catarrhal jaundice about Christmas, 1908. In the latter part of February suffered from an attack of acute tonsillitis. All symptoms of this condition disappeared and the temperature returned to normal but after a few days rose every afternoon to about 100.5° F. and was repeatedly above normal for a period of two weeks. Pulse 100 to 104. Chest examinations by her physician and by the writer showed nothing abnormal. The Von Pirquet and Morro cutaneous tuberculin tests were both positive. The

X-ray picture showed no evidence of clinical tuberculosis. In spite of temperature slightly above normal she was allowed to return to work and has been at work ever since. Has been apparently well and has gained in weight.

CASE XI. Miss —, age 14. First seen May 13, 1909. Complained of slight cough. On physical examination a few scattered rales heard opposite the 7th to 10th v. s. Temperature 100.2° , pulse 128. On May 15th they were practically the same. During the summer while the child was resting most of the time her temperature was normal though the pulse remained very rapid. Since September 3d it has nearly always been above 100° , once reaching 101.5° . The pulse has varied from 122 to 140. Examination of the chest on two occasions has shown no abnormal signs referable to the lungs except one occasion during an acute cold scattered rhonchi were heard on both sides of the chest December 4, 1909, at the bases. On auscultation of the heart a systolic (?) murmur has been heard in the pulmonary area and occasionally at the apex not transmitted. Leucocyte count January 1910, 9000. Von Pirquet test positive.

(NOTE.—May, 1910. Since the above report physical signs of mitral stenosis have developed in this case and a diagnosis of chronic endocarditis has been made.)

Clinical and Pathological Notes

Report of a Case of Hemophilia. BY G. S. TOWNE, M. D.,

Read before the Medical Society of the County of Saratoga, March 29, 1910.

Our knowledge of hemophilia is modern. Its historians have been able to find the records of but few cases or families prior to those of the last century. The characteristics of this disease were first classified by American physicians in the early part of the nineteenth century, and again later, during the past thirty years, Hughes, Gould, Hutchinson, Harris, Holton and Dunn have added much to the literature upon this subject.

It is my purpose in this paper to summarize some of the characteristics of this disease, which have been observed by the above named authors and upon which all are practically agreed, and later to report a case which recently came under my care and incidentally gave me much anxiety.

In a majority of cases the disposition is hereditary, The fault may be acquired, however, but nothing is known of the con-

ditions under which the disease may thus arise in healthy stock. The hereditary transmission of this disease is truly remarkable. Osler mentions the Appleton-Swain family of Reading, Mass., in which there have been cases for the past two centuries, covering a series of seven generations. The usual mode of transmission is through the mother, who is not herself a bleeder, but the daughter of one. The reversion to the ancestral stock through the mother alone is almost the rule, and the daughters of a bleeder though healthy and free from any tendencies are almost certain to transmit the disposition to the male offspring. A peculiar fact also is the ratio of cases which occur between the sexes. One author places the ratio at eleven males to one female, another at thirteen to one. As a rule the disease makes its appearance during the first two years of the patient's life. It is rare for the manifestations to be delayed until the tenth or twelfth year. Again, all grades of social life are equally affected. Such families of bleeders are usually large, the members very healthy in appearance with fine soft skins.

The pathology of this most interesting disease is obscure. While a congenital fragility of the vessels is said to exist, it has never been proven. It has been observed that bleeders always suffer from prodromic symptoms which are due to an increase in the volume of blood. Hence variability in the volume has been invoked as causal. Disturbed innervation diminishing from time to time the vascular tone is thought by Musser, Pierce and others to be the pathological factor. It is mere hypothesis, as have been all suggestions thus far put forward, regarding the pathology of hemophilia. As suggested by Eicharst it may be possible that the changes in the blood are chemical and that our present laboratory methods are not adequate to discover them.

Attention is commonly called to a bleeder by the occurrence of a hemorrhage difficult to control though induced by some trifling cause. The extraction of a tooth is one of the most frequent of these events. It may be the prick of a pin or a scratch or a slight cut as in vaccination or nothing at all may be discovered. The tendency may manifest itself at the umbilical cord at birth or in Jewish children at the circumcision. On the other hand the same accidents which are without results early in life may induce it later. Uncontrollable epistaxis is one of the most frequent manifestations, occurring in 169 out of

334 cases collected by Grandidier. It may be induced simply by blowing the nose. Other situations are the mouth, stomach, ear and eyelids. On the other hand hemorrhages rarely occur in the interstices of organs and though interstitial hemorrhages do occur it is the result of some trifling blow, when the well known "black and blue" appearance is produced. According to Tyson the absence of interstitial hemorrhages, except as the result of some cause, however trifling, may be said to distinguish hemophilia from the acquired tendency. The external hemorrhages including those of the mouth and nose may be profuse and even fatal. They often last 24 hours and longer. When checked reaction from them is rapid and the victims rapidly resume their natural appearance, though repeated hemorrhages may engender a permanent anaemia.

The comparative rarity of hemophilia excuses in part the surgeon who, when in the midst of or after the completion of an operation, suddenly realizes that the patient is a "bleeder." At least this is a very consoling thought to me and without it I should hardly have the courage to write this paper for the County Medical Society. Unlike most other morbid conditions, when, during the physical examination or history taking, a lead may be gained and followed up from general interrogation, this portentous state of body will remain unguessed until active work is commenced unless the direct thought is in the clinician's mind and the questions asked and developed: "Is the patient a bleeder?"

A case of hemophilia came under my care last January in which fortunately the outcome was satisfactory, though I was remiss in forgetting to ask in regard to the possibility of hemophilia before beginning active work. It concerned L. W., a male adult, age 24, a blond, with an unusually fair, soft skin, suffering from a left sided indirect inguinal hernia. He was admitted to the Saratoga hospital January 19, 1910, and gave the following history: Father dead, cause unknown; mother living, but not well. Has profound anaemia, which is a family trait. One sister living and well. Personal history: Has always been well with the exception of diseases of childhood; has a tendency to constipation; had one attack of appendicitis two years ago, from which he recovered without an operation; has had a left sided indirect inguinal hernia for seven years which has been fairly well controlled by means of a truss. Recently the truss has

failed to keep the hernia reduced and as a consequence it has occasioned much distress and inconvenience. Physical examination showed a normal condition of heart, lungs, liver, spleen and bladder. Urine 1028, acid, no alb. and no sugar. After a proper preparation and etherization, the operation was begun. From the first it was noticed that the hemorrhage was very profuse, complicating the technique greatly. So hampered were we by the hemorrhage that both Dr. Ressiguie and myself commented upon the occurrence, and the possibility of his being a bleeder was discussed. We resorted to every known means at our command to control the oozing, but failed. To apply hot compresses produced but little temporary effect; to tie all the bleeding points was hopeless and to suture a portion of tissue which was oozing freely simply added two more bleeding points at the point of entrance and exit of needle, which I am bound to say had a very curious but subduing effect upon one's self-confidence. The wound was dressed with a firm pad of gauze bound tightly over the wound. The dressings were watched closely for blood stains and the patient for signs of hemorrhage. Everything seemed to go well for three days, when the patient began to complain of pain through his abdomen. He was restless, his temperature and pulse considerably accelerated and there was marked tympanites which salines and enemas failed to relieve. The wound was examined carefully and it had every appearance of healing by first intention. During the next two days, all the symptoms were exaggerated with a fetid breath, badly coated tongue and a peculiar greenish yellow tint to the skin added. The wound was again examined with great care and a fluctuation detected. A small opening was made through the original incision and about four ounces of dark fluid blood emitted. The opening was immediately opened down to the fascia to the full size of the first incision and packed tightly with gauze. The accumulated blood seemed to come from the interior of the abdomen, welling up through the sutured fascia. The cut surfaces began to ooze immediately. During the next six hours the dressing had to be reinforced twice on account of the extensive hemorrhage, at which time I again packed the wound with gauze saturated with adrenalin chloride 1-1000. I placed the patient upon calcium chloride, gr. x v, q, IVh, and gelatine, one cup full t, i, d, with his nourishment. Further inquiry into his history, following his recovery from ether, revealed the fact that

every cut, scratch or abrasion always bled very profusely, and this trait had also been present in his maternal grandmother. He had no knowledge of any other ancestor having the tendency.

The oozing of the blood continued in spite of the adrenalin, but showed a tendency to abate at each dressing while the old blood that had extravasated the tissues, and doubtless dissected up the peritoneum, still continued to escape through the wound. At the time the wound was opened his temperature had reached 103.3° , with the pulse at 110 and leucocyte count 12,900. In four days the temperature and pulse were normal, but there was still marked oozing each time the wound was packed. An interesting feature of the wound was its tendency to granulate. I never saw granulations accumulate so rapidly. The patient left the hospital just twenty days after the operation with all the annoying symptoms incident to the extravasation of blood abated and the wound nearly closed; but with granulations that required attention daily. In another week the wound was closed. I fully expected to have the operation result in a failure, but up to the present time (Saturday, March 26), he feels perfectly well and is following his occupation of knitter with no signs or symptoms of a return of the hernia.

My experience with hemophilia has been limited to three cases. One was in a case of typhoid fever which occurred during my internship in Hartford Hospital nine years ago. In this case the family history was very striking in its hereditary transmission from one generation to another. The patient died from intestinal hemorrhage early in the course of the disease. The second one was a case of pregnancy which occurred in my practice $2\frac{1}{2}$ years ago. In this instance I was familiar with the family history of hemophilia, in which there had been one death from hemorrhage, and fortified myself and the patient with calcium chloride for two weeks previous to the expected confinement. Everything worked well; which might have been the case without treatment, for it is the rule that hemophilia is no barrier to the development of large families.

I have no desire to encounter another case of hemophilia complicating a surgical procedure. The attendant risks to the patient are too great, and the anxiety which such cases occasion the operator, are too exasperating to warrant the attempt.

In case of subsequent legal action by the parents or relatives after an unfortunate ending to some cutting operations, it would

be fair to suppose that a jury in relieving the attending surgeon of the responsibility would be bound to consider the shortcoming of failure to learn of the contra-indication to the use of the knife, along with the manifest peculiarity of the disease itself. Certainly some weight in favor of the operator would be the degree of necessity which prompted the operation.

Editorial

But Lady Penelope went on—"If you knew, my lord, how I lament my limited means on those occasions! but I have gathered something among the good people at the Well. I asked that selfish wretch, Winterblossom, to walk down with me to view her distress, and the heartless beast told me he was afraid of infection—infection from a puer—puerperal fever! I should not perhaps pronounce the word, but science is of no sex. However, I have always used thieves' vinegar essence and never have gone farther than the threshold.

SIR WALTER SCOTT, BART.

St. Ronan's Well.



Postural Treatment and Lavage of the Renal Pelvis

In *Surgery, Gynecology and Obstetrics* for February, 1910, Dr. Paul M. Pilcher urges the advantage of postural treatment and lavage for the relief of pyelitis in pregnancy. Dr. Pilcher states that the true pyelitis of pregnancy is an acute catarrhal inflammation of the pelvis of the kidney which occurs suddenly during the course of a normal pregnancy. It is acute in its onset, usually unilateral, affecting more frequently the right than the left kidney, runs an acute course and tends to spontaneous recovery without permanent injury to the kidney.

He reports eight cases. In seven of these, cystoscopic examinations were made and the ureters catheterized. In only one case (bilateral infection) was it found necessary to terminate the pregnancy. The other seven cases were successfully treated by lavage of the renal pelvis, the employment of the elevated trunk posture and diuretics.

From his own observations he believes that the conditions may result from the following causes: *first*, that a few cases are due to toxic influences and hematogeneous infection in a kidney whose

vitality has been lowered owing to the occurrence of the pregnancy; this is probably the cause of pyelitis occurring in the earlier stages of pregnancy; *second*, that from the appearance of the bladder as seen by cystoscopic examination, it would seem very probable that the distortion of the vesical portion of the ureter (due to the presence of an enlarging uterus) could easily cause an obstruction to the free flow of urine into the bladder and thus favor infection of the renal pelvis either hematogenous or by direct extension; *third*, that pressure and distortion of the ureter above the brim of the pelvis due to the enlarging uterus is a frequent contributing cause after the sixth month.

In the summary Dr. Pilcher emphasizes the following points: As pressure on the bladder is a more frequent cause of ureteral obstruction than pressure of the uterus itself, the knee posture is contraindicated as it would increase the pressure on the bladder. The urine flows more freely from the ureteral catheter when the patient sits up than when she is in the recumbent posture. It is therefore evident that the elevated trunk posture favors drainage of the renal pelvis in these cases and should be used. The results have been very satisfactory. The patients are treated by proper diet, urinary antiseptics and elevated trunk posture for eight or ten days and if the pain persists, the temperature remains elevated and pyuria continues the pelvis of the kidney is drained by a ureteral catheter and irrigated with a twenty per cent. solution of argyrol.

Abortion of premature labor is seldom necessary in these cases, but where there is a bilateral involvement with persistent pain, pyuria and fever, and the above method fails, the termination of the pregnancy is indicated.

Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF HEALTH, ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, APRIL, 1910.

Deaths, April, 1910.

Consumption.	21
Typhoid fever.	1
Scarlet fever.	3
Measles.	1

Whooping-cough.	1
Diphtheria and croup.	1
Grippe.	7
Diarrheal diseases.	3
Pneumonia.	15
Broncho-pneumonia.	4
Bright's disease.	13
Apoplexy.	9
Cancer.	11
Accidents and violence.	15
Deaths over 70 years.	46
Deaths under 1 year.	14
<hr/>	
Total deaths.	180
Death rate.	21.88
Death rate less non-residents.	19.33

Deaths in Institutions.

	Resident	Non-Resident
Albany Hospital.	9	8
Child's Hospital.	1	1
County House.	5	6
Homeopathic Hospital.	4	0
Hospital for Incurables.	0	0
Little Sisters of the Poor.	1	0
Public places.	5	1
St. Margaret's House.	1	0
St. Peter's Hospital.	10	4
Austin Maternity Hospital.	2	0
<hr/>		
Total.	38	20
Births.		101
Still births.		5

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

In the Bureau of Plumbing, Drainage and Ventilation, there were two hundred sixty-nine inspections made of which one hundred forty-six were of old houses and one hundred twenty-three of new houses. There were sixty-five iron drains laid, forty-six connections to street sewers, forty-six tile drains, two urinals, sixty-five cesspools, sixty-six wash basins, one hundred four sinks, seventy bath tubs, sixty-nine washtrays two trap hoppers and one hundred thirty-three tank closets. Two hundred nine permits were issued of which one hundred forty-three were for plumbing and sixty-six for building purposes. There were sixty-eight plans submitted of which seventeen were of old buildings, and fifty-one for new buildings. There were twenty-nine houses tested, two with peppermint and there were twenty-seven water tests. There were thirty-five houses examined on complaint and eighty-nine re-examined. Twenty complaints were found to be valid and fifteen without cause. There were two violations.

BUREAU OF CONTAGIOUS DISEASE.

Cases Reported.

Typhoid fever.	3
Scarlet fever.	19
Diphtheria and croup.	9
Chickenpox.	9
Measles.	90
Whooping-cough.	0
Consumption.	31
Total.	161

Contagious Disease in Relation to Public Schools.

	<i>Reported</i>		<i>Deaths</i>	
	D.	S. F.	D.	S. F.
Public School No. 9.	1	..	..	..
Public School No. 11.	1	..	..	..
Public School No. 14. . . . .	..	1	..	..
Public School No. 15. . . . .	..	1	..	..
St. Joseph's Academy. . . . .	..	1	..	..
St. John's School. . . . .	..	2	..	..
Cathedral School. . . . .	..	1	..	..
St. Patrick's School.	1	..	..	..
Lady of Angels School.	1	..	..	..
Number of days quarantine for diphtheria:				
Longest. 34	Shortest. 9	Average. 16		
Number of days quarantine for scarlet fever:				
Longest. 35	Shortest. 10	Average. 26 6/13		

Fumigations:

Houses. 53	Rooms.	211
Cases of diphtheria reported.		9
Cases of diphtheria in which antitoxin was used.		9
Cases of diphtheria in which antitoxin was not used.		0
Deaths after use of antitoxin.		1

BENDER REPORT ON TUBERCULOSIS.

Positive.	15
Negative.	31
Failed.	0
Total.	46

TUBERCULOSIS.

Living cases on record April, 1910.....	477
Reported during April, 1910:	
By telephone.	0
By Bender.	1
By card.	15
	<hr/> 16
Dead cases reported by certificate.....	8
	<hr/> 24
	<hr/> 501
Dead cases previously reported.	13
Dead cases not previously reported.....	8
Duplicates.	6
	<hr/> 27
Living cases on record May 1, 1910.....	474
	<hr/> <hr/> 21
Total tuberculosis death certificates filed April, 1910.....	21

BUREAU OF PATHOLOGY.

Bender Laboratory Report on Diphtheria.

Initial positive.	23
Initial negative.	75
Release positive.	15
Release negative.	60
Failed.	7
	<hr/> 180
Total.	180
Test of sputum for tuberculosis:	
Initial positive.	27
Initial negative.	35

BUREAU OF MARKETS AND MILK.

Market reinspections.	139
Public market inspections.....	25
Fish markets inspected.....	7
Fish peddlers inspected.....	1
Rendering establishments inspected.....	2
Pork packing houses inspected.....	3
Milk wagons in clean condition.....	21
Butter fats below 3%.	2
Butter fats from 3 to 3.5%.....	5
Butter fats from 3.5 to 4%.....	14
Solids under 12%.....	4
Solids from 12 to 12.5%.....	3
Solids from 12.5 to 13%.....	7
Solids over 13%.....	7
50 lbs. of sausages destroyed.	

BUREAU OF MILK.

BUTTER FATS.

SOLIDS.

No.	Specific Gravity	Under 3 %	3 to 3.5%	3.5 to 4%	Over 4%	Under 12%	12 to 12.5%	12.5 to 13%	Over 13%
152.....	33.2	..	..	I	..	..	..	I	..
161.....	32.6	..	..	I	..	..	..	..	I
183.....	33.6	..	I	..	..	..	I	..	..
168.....	33.6	..	..	I	..	..	..	..	I
75.....	31.2	..	..	I	..	..	..	I	..
71.....	32.2	..	..	I	..	..	..	..	I
31.....	32.2	..	..	I	..	..	..	..	I
94.....	33.6	..	I	..	..	..	I	..	..
108.....	32.6	..	..	I	..	..	..	I	..
8.....	32.6	..	I	..	..	..	I	..	..
128.....	32.6	..	..	I	..	..	..	..	I
68.....	31.2	..	..	I	..	..	..	I	..
169.....	31.6	I	..	..	..	I	..	..	..
62.....	31.6	..	I	..	..	I	..	..	..
163.....	32.6	I	..	..	..	I	..	..	..
160.....	30.2	..	I	..	..	I	..	..	..
199.....	32.1	..	..	I	..	..	..	I	..
46.....	34.1	..	..	I	..	..	..	..	I
184.....	33.1	..	..	I	..	..	..	I	..
170.....	34.1	..	..	I	..	..	..	..	I
153.....	32.1	..	..	I	..	..	..	I	..

Medical News

Edited by Arthur J. Bedell, M. D.

ALBANY GUILD FOR THE CARE OF THE SICK—DEPARTMENT OF VISITING NURSING—STATISTICS FOR APRIL, 1910. Number of new cases, 132; *classified as follows*: Dispensary patients receiving home care, 10; district cases reported by health physicians, 7; charity cases reported by other physicians, 50; moderate income patients, 65; old cases still under treatment, 197; total number of cases under nursing care during month, 329. *Classification of diseases for the new cases*: Medical, 47; surgical, 7; gynecological, 0; obstetrical under professional care, mothers, 36; infants, 31; eye and ear, 2; skin, 1; throat and nose, 0; dental, 0; contagious diseases in the medical list, 6; removed to hospital, 11; deaths, 8.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 3; medical students in attendance, 4; Guild nurses in attendance, 5; patients, 4; visits by head obstetrician, 1; visits by attending obstetrician, 1; visits by students, 32; visits by nurses, 34; total number of visits of this department, 68.

Visits of Guild Nurses (all departments): Number of visits with nursing treatment, 1,324; for professional supervisions of convalescents,

299; total number of visits, 1,623. Cases reported to the Guild by 4 health physicians, and 47 other physicians. Graduate nurses 8, and pupil nurses 11 on duty.

Dispensary Report.—Number of clinics held, 111; number new patients, 145; number old patients, 542. *Classification of clinics:* Surgical, 12; nose and throat, 8; eye and ear, 18; dental, 3; lung, 17; nervous, 4; skin and G. U., 8; stomach, 3; medical, 13; children, 13; gynecological, 8.

THE MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY held a regular meeting at the County Court House, Wednesday, May 18, 1910, at 8.30 P. M. Scientific Program: Symposium on Goitre. Papers were read by Dr. W. B. Stone, on "Physiology and Pathology of the Thyroid and Parathyroid," Dr. R. M. Collie, on "Medical Treatment of Diseases of the Thyroid," Dr. E. MacD. Stanton on "Surgical Treatment of Diseases of the Thyroid."

ANNALS OF MEDICAL PRACTICE.—*The New England Medical Monthly* for twenty-nine years edited and published by Dr. William C. Wile, of Danbury, Conn., has been purchased by the Annals Publishing Co., of Boston and will be combined with the *Annals of Medical Practice*. *The New England Medical Monthly* incorporating the *Annals of Medical Practice* thus becomes the most representative medical monthly publication with the largest circulation in New England. Dr. Francis D. Donoghue formerly editor of the *Annals of Medical Practice* will continue in charge of the consolidated journals.

THE NATIONAL CONFEDERATION OF STATE MEDICAL EXAMINING AND LICENSING BOARDS held its twentieth annual meeting at St. Louis, Mo., Monday, June 6, 1910, in the Southern Hotel.

The subject taken up at this meeting was a consideration of practical clinical instruction in medical colleges, a report on medical education in the United States by a representative of the Carnegie Foundation, and a report on a proposed materia medica list by a special committee. These topics are all practical and of vital interest to examining boards, medical schools and the profession. The contributors of papers to the symposium on clinical instruction are men of the highest standing in the medical profession, many of them teachers in some of the foremost institutions in this country, and their productions will be worthy of the most careful consideration. The chief object of this symposium is to determine, as far as possible, whether clinical instruction in medical schools can be made sufficiently practical and thorough so as to warrant the medical boards in demanding practical examinations in the principal branches of the medical course.

The officers of the Conferation are: President, A. Ravogli, M. D., Cincinnati, O.; secretary, Murray Galt Motter, M. D., Washington, D. C.

THE UNITED STATES PHARMACOPOEIAL CONVENTION announces that it will be possible for the medical and pharmaceutical press and the organizations represented in the pharmacopoeial convention of 1910, to secure, at a cost of five cents per folio of one hundred words, a carbon copy

of the stenographic report of the proceedings of the convention. Arrangements should be made promptly, with the undersigned, and applications must be accompanied by a certified check for one hundred dollars as a guarantee of the payment of the final cost of the work. Murray Galt Motter, secretary.

PUBLIC HEALTH LECTURES given under the direction of the New York State Department of Health were held in the Bender Laboratory. Tuesday, May 10th, Eugene H. Porter, A. M., M. D., Commissioner of Health read a paper on "The Health Officer as a Sociological Factor of Modern Civilization." Alec. H. Seymour, Deputy Commissioner of Health, on "The Legal Duties, Responsibilities and Powers of a Health Officer of the State of New York." Wednesday, May 11th, Dr. W. A. Howe, Director of Division of Communicable Diseases, "Prompt and Efficient Quarantine: How to Establish and How to Release from a Quarantine." Dr. Howe, "The Health Officer's Duty to Secure the Prompt and Implicit Obedience of Every Member of His Community to the Provisions of the Public Health Law." Thursday, May 12th, Theodore Horton, C. E., Chief Sanitary Engineer, "The Safe Disposal of Excreta and Wastes." F. D. Beagle, Director of Division of Vital Statistics, "Importance and Utilization of Vital Statistics in Modern Civilization." Friday, May 13th, Mr. Horton, "The Creation and Safe-Guard of a Pure Water Supply." Mr. Seymour, "Queries and Answers on Public Health Law, Nuisances, etc."

THE ALBANY GUILD FOR THE CARE OF THE SICK.—The annual report of this society recently appeared giving full details as to the work accomplished in the past year. To those unfamiliar with the scope of the association careful study of the report will be of great interest.

"THE 1911 SKULL." The board of directors chosen by the junior class of the college have elected the following: Editor-in-chief, Milton G. Burch; literary editors, La Verne Boulton, John McElwain and Erwin Johnson; art editor, F. M. Neuendorf; business manager, F. W. Rafferty; assistant business manager, Harold Lucas.

RECEPTION TO DR. JACOBI.—The Medical Society of the State of New York gave a reception to Dr. Abraham Jacobi at the Academy of Medicine, May 6, 1910, in honor of his eightieth birthday. Dr. Joseph D. Bryant made the address of welcome and Dr. Charles Jewett presented the guest with a bronze medallion of himself. This was unveiled by Miss Ruth McAneny, the granddaughter of Dr. Jacobi.

THE NATIONAL ASSOCIATION FOR THE STUDY OF EPILEPSY AND THE CARE AND TREATMENT OF EPILEPTICS held a meeting at Baltimore, Md., May 7, 1910, when the following papers were read: "Epilepsy as a Manifestation of Brain Tumors," by Dr. Harvey Cushing, Baltimore; "Epileptiform Convulsions Occurring in the Adolescent," Dr. Frank P. Norbury, Kankakee, Ill.; "Three Genealogical Trees of Epileptic Families," Doctors E. A. Kennedy, A. V. Cooper, F. W. Guild, Palmer Mass.;

"Lesions of the Major Trunk Viscera in Epileptics and Brown-Sequard's Epilepsy in Guinea Pigs," Dr. A. E. Taft, Palmer, Mass.; "Epilepsy and Its Relation to Criminal Insanity," Dr. Thomas C. Fitzsimmons, Waymart, Pa.; "Epileptic Equivalents," Dr. Isador H. Coriat, Boston, Mass.; "When is Craniotomy Indicated in Epilepsy?" Dr. W. P. Carr, Washington, D. C.; "The Treatment of Epilepsy," Dr. Albert E. Sterne, Indianapolis, Ind.; "Was the Apostle Paul an Epileptic?" Dr. Andrew Woods, Philadelphia, Pa.; "Care and Treatment of the Epileptic Insane," Dr. J. Clement Clark, Sykesville, Md.; "An Outbreak of Diphtheria, with the Methods Used to Restrict Its Spread," Dr. David F. Weeks, Skillman, N. J.; "Statistics from the Ohio Hospital for Epileptics," Dr. William H. Pritchard, Gallipolis, O.; "Separate State Care of Epileptics," Dr. William T. Shanahan, Sonyea, N. Y.; "Observations on the Use of the Roentgen Rays in Cases of Epilepsy," Dr. A. W. George, Boston, Mass.; "The Mental Characteristics of Chronic Epilepsy," Dr. Ernest Jones, University of Toronto, Toronto, Can., also papers by Dr. E. E. Southard, Boston, Mass., Dr. Lucas and Dr. F. W. Keating, Owings Mills, Md.

UNION COLLEGE.—The new \$100,000 engineering building at Union College, the gift of Andrew Carnegie, was dedicated at Schenectady April 29th in the presence of representatives of practically all the colleges and universities of the east. Addresses were delivered by President Harry A. Garfield, of Williams College, Andrew S. Draper, State Commissioner of Education, Dr. George F. Swain, of Harvard, Dr. Franklin H. Giddings, of Columbia University, and Dr. Bemis, deputy water commissioner of New York City. In his address Commissioner Draper advocated municipal aid for colleges and universities and said that Schenectady should bond itself for \$200,000 to help Union along. Dr. Draper said that he would like to see Union College the education centre for this section of the State.

PERSONALS.—Dr. E. HUDSON RIDER (A. M. C. '85) has moved from Clinton Avenue to 202 Lark Street, Albany, N. Y.

—Dr. CHARLES L. MYERS (A. M. C. '95) has moved from North Pearl Street to 70 Clinton Avenue, Albany, N. Y.

—Dr. HENRY L. K. SHAW (A. M. C. '96) who was recently operated upon for appendicitis at the Albany Hospital is now recuperating at Atlantic City.

—Dr. EUGENE E. HINMAN (A. M. C. '99) has moved from Lark Street to 27 Dove Street, Albany, N. Y.

MARRIED.—Dr. ARCHIBALD MCC. GILBERT (A. M. C. '95) and Miss Anna Enders Morris were married April 21, 1910. Dr. and Mrs. Gilbert will reside in Amsterdam, N. Y., where the doctor has a well established practice.

—Dr. JOHN W. BURNS (A. M. C. '01) and Miss Margaret Brogan of Watervliet, N. Y., were married April 28. Dr. and Mrs. Burns will reside in Watervliet. The doctor has a large practice and is health officer of the city.

—Dr. GEORGE L. BRANCH (A. M. C. '04) and Miss Agnes B. Snecker were married late in May at the Aurania Club, Albany, N. Y. Dr. and Mrs. Branch will live in Catskill.

—Dr. WILLIAM C. TREDER (A. M. C. '07) and Miss Anna Leonard of Chittenango, N. Y., were married April 21. Dr. and Mrs. Tredner will reside in Scotia, N. Y.

—Dr. ROY MUNROE COLLIE (A. M. C. '06) and Miss Edith M. Quilhot of Amsterdam, N. Y., were married April 30, 1910. Dr. and Mrs. Collie will live in Schenectady, N. Y.

DIED.—Dr. GARRETSON L. CARHART (A. M. C. '48) died at his home in Marion, April 20, aged 86.

—Dr. CHARLES B. MALLERY (A. M. C. '86) of Aberdeen, S. D., died in St. Luke's Hospital in that city, April 3, aged 45.

—Dr. ARTHUR DELAVAN STOWITTS (A. M. C. '86) died in the Methodist Hospital, Omaha, March 13 1910, after an operation for mastoiditis, aged 48.

—Dr. WILLIAM G. HEALEY (A. M. C. '99) died at his home in Cohoes, N. Y., March 15, 1910, aged 30.

Current Medical Literature

OPHTHALMOLOGY

Edited by Charles M. Culver, M. D.

The Advantage of Examination of the Eyes and Cases of Epileptiform Attacks. (De l'inétret de l'examen des yeux dans les cas d'attaques épileptiformes.)

RODIET and BRICKA. *Recueil d'Ophtalmologie, September, 1908.*

The authors draw attention to the value, for diagnosis and treatment, of ophthalmoscopic examinations in cases of generalized or localized epileptiform attacks following falls on the head and lesions of the brain or spinal chord, from alcoholism or syphilis.

Two interesting cases are cited in illustration:

Case 1. A woman, aged sixty years, an inmate of an asylum owing to maniacal delirium of alcoholic origin, and hallucination of taste and smell. Thirty-five years previously she had shown some symptoms suggestive of syphilitic infection, and six years before admission developed convulsions in the upper extremities and some attacks of vomiting. These convulsions lasted about a week, but recurred again a year after admission into the asylum, and they were then limited to the face and were

followed by paresis of the face and tongue and defective speech. Later the type of the epileptiform attack became facio-crural, the left lower extremity being affected as well as the face.

Ophthalmoscopic examination showed grey atrophy of the discs, which were of a dirty yellow color, dilated and tortuous vessels, and slight pigmentation of the retina. Post-mortem examination of the brain showed irregular thickening and adhesion of the dura mater, with numerous pearly meningeal plaques—a very thick one being placed over the right paracentral lobule. The right sylvian artery was irregularly thinned and aneurysmal and felt parchment-like, inelastic, and fragile.

Case 2. A female inmate of the asylum, aged forty-six years. Alcoholic, with history of syphilis twenty years previously. Hallucinations of sight and hearing and alterations in general sensibility. Ideas of grandeur and persecution. Four years after admission she developed Jacksonian epilepsy, followed by temporary paralysis in the right arm and also signs of pulmonary tuberculosis. Ophthalmoscopic examination showed a dirty yellow disc, dilated and tortuous vessels, retinal pigmentation on the left side, and a limited optic neuritis with retinal pigmentation on the right.

At the autopsy a score of gummata, about the size of hazel nuts, were found on the surface of the brain and three of these were grouped together on the motor area for the right arm. Histologically, the optic nerve and retina and their vessels showed proliferation of the interstitial and supporting tissue elements suggestive of syphilis.

A Case of Rupture of the Internal Carotid in the Cavernous Sinus Treated by Injections of Gelatinised Serum. (Un cas de rupture de la Carotide interne dans le sinus caverneux, traité par les injections de sérum gélatiné.)

P. CARLOTTI. *Annales d'Oculistique*, June, 1908.

The author records the case of a man, aged thirty-five years, who fell over the staircase from the second story of a house, striking the right side of his head against the pillar of the banister and rendering himself unconscious for twenty-four hours. There was some discharge from the patient's ear and, on recovering consciousness, he was found to have right facial paralysis of a peripheral type, while he subsequently developed non-pulsating exophthalmos of the right eye, with complete paralysis of the right third nerve and a typical bruit heard subjectively and objectively. Treatment by the Lancereaux-Paulesco method (intra-muscular injections of seven per mille serum, containing twenty-five grams of gelatine in each 1,000 c. c.) was carried out in Morax's department at the Lariboisiere Hospital, with the result that, after each injection, the symptoms disappeared for a time, while within a year the subjective noises had ceased completely and the patient had improved so much that he was able to resume his work as a dyer. Four and a half months after the accident

the right frontal vein became enlarged and, on placing a finger on it, a thrill could be felt, while on auscultation over it a bruit was heard, which was checked by compression against the orbit, showing a reversed current from the superior ophthalmic vein towards the forehead. Subsequently a similar, enlarged vein with a thrill, developed horizontally in the upper lid. Eventually both these veins ceased to be distended and lost their thrills. About eight months after the accident, during an interval in the treatment, the patient developed anesthesia to pain and heat in the region of the cutaneous distribution of the right superior maxillary nerve. The author has not found this complication mentioned in any of the previously recorded cases and considers that it was caused by the extension of the tumor backwards and outwards, so as to compress the nerve at its origin. A peculiar occurrence was that, eleven months after the accident, the patient had a sudden attack of giddiness, followed by loss of consciousness, on recovering from which he vomited a large quantity of blood-clot.

On the Action of Atoxyl upon the Eye. (Ueber die Wirkung des Atoxyls auf dem Auge.)

P. IGRSHEIMER. *Von Graefe's Archiv fuer Ophthalmologie*, July 30, 1909.

The number of cases of loss of vision after the administration of atoxyl goes on increasing, and Igersheimer, of Heidelberg, must be cordially commended for collecting and discussing all the recorded cases of this deplorable contingency; the more so as the results of his experimental researches are also of considerable scientific importance.

The clinical course of a typical case of atoxyl amblyopia is, in short, as follows:

A few weeks or months after the beginning of the administration of the drug, visual trouble commences in the form of cloudiness, obscurations, and scintillation. These symptoms may occur by themselves or may be accompanied by nervous complaints, such as fatigue, psychic depression, giddiness, tinnitus aurium, or deafness. An ophthalmoscopic examination at this stage may not reveal anything abnormal; even the vision may not be appreciably impaired, but the visual field is nearly always contracted as regards the nasal side. The optic disc is often paler, at least in its temporal half. There was never a central scotoma. Both eyes are always affected. Although frequently able to arrest the progress of the disease, suppression of the drug does not make any difference. The loss of vision proceeds irresistibly, and the appearance of complete idiopathic optic atrophy is at last reached. There seems to be a certain amount of pre-disposition in eyes which are weakened by other causes (alcoholism, syphilis, prolonged mercurial medication, arsenic, etc.). The most dangerous results seem to ensue if the drug is administered daily, even if in very small dose, and if the dose of 0.4-0.5 gram is exceeded for the week.

The only post-mortem examination ever made in man showed the strongest degeneration of the optic nerve fibers near the chiasma.

Igersheimer has injected atoxyl into the vitreous and under the conjunctiva of rabbits, and he found that nothing but the nervous matter showed signs of degeneration. In a rat a very curious isolated degeneration of the retinal ganglion (layer of rods and cones, outer nuclear, and outer granular layers) took place.

Atoxyl intoxication thus stands entirely by itself, differing as well from those agents which invade the eye in the form of retrobulbar neuritis with central scotoma and free visual periphery (alcohol, tobacco, arsenic, iodoform, stramonium, hashish, etc.), as also from the other group in which the vascular changes prevail (quinine, felix mas, salicylic acid, etc.).

Atoxyl passes partly unchanged out of the system, but another part is decomposed into arsenic. The atoxyl amblyopia is essentially different from arsenical poisoning and not due to the action of this compound; the nervous tissues of the eye seem to have a peculiar affinity to the atoxyl-molecule as a whole, as it circulates in the blood, and to be thus specially liable to its toxic action.

Further Clinical Experiences with the Ionization Treatment of Eye Diseases. (Weitere klinische Erfahrungen mit der Ionentherapie bei Augenleiden.)

R. WIRTZ. *Klinische Monatsblatt fuer Augenheilkunde*, July, 1909.

Ionization treatment in the hands of Wirtz has given further proofs of its efficacy. Sixteen cases of corneal ulcer, due to infection with pneumococci (9), diplobacilli (5), and staphylococci (2), were treated successfully with zinc-ions. Some of the ulcers were of a very severe type; one big ulcer had resisted Saemisch's operation and repeated cauterization. The application of the current itself is not very painful, but pain sets in one-quarter hour later and may last from two to twelve hours. Zinc-ions act as a powerful antiseptic, which differs from other means by reaching into the depth of the tissue. They were effectual in smaller dose (one-half milliamperes for one-half to one minute), also in five cases of recurring erosion of the cornea. Blepharitis ulcerosa is a further disease suitable for treatment with zinc-ions. Ten cases were subjected to it, some of which had resisted treatment with silver nitrate and ointment for months. After epilation, a half per cent. solution of zinc sulphate was applied with a current of three to five milliamperes for three to five minutes; four to six, in the more obstinate cases eight to twelve sittings were required. To his first six, Wirtz now adds ten cases of interstitial keratitis treated with iodine-ions; they have an irritant effect and their dose must therefore be carefully adjusted to the condition of the eye. The treatment cannot be considered a specific in interstitial keratitis, yet it proved superior to the usual remedies. Striking results were obtained with chlorine-ionization in cases of corneal opacity. Of twenty-six patients, fifteen were improved considerably, six slightly, and in only four cases of very dense opacity of old-standing did the treatment fail completely. Daily sittings for four to sixteen weeks were required, lasting two to three minutes, with a current of three milliamperes and a physio-

logical salt solution. In two cases mercury-ions were applied from a 3 per cent. solution of mercury oxycyanide. The first patient suffered from syphilitic irido-cyclitis. As the eye remained deeply injected, irritable, and painful, and the perception of light was uncertain in spite of all treatment, enucleation had been proposed. After eighteen sittings all redness and irritation has disappeared and vision improved to counting fingers at one metre in some parts of the visual field. The second affection treated with mercury-ions was scleritis of doubtful etiology in a patient who had gone through six months' hospital treatment without result. The eye became pale after twelve sittings; after that four fresh attacks of scleritis occurred, but each yielded speedily to ionization treatment.

Congenital Cysts of the Conjunctiva. (Angeborene Zyste der Bindehaut.)

G. F. COSMETTATOS. *Klinische Monatsblaetter fuer Augenheilkunde*, August, 1908.

Serous cysts of the conjunctiva may be either congenital or may be later developed from the lymphatics of the conjunctiva. Usually they are located in the bulbar conjunctiva, in the region of the sclero-corneal limbus. They may also, although less frequently, develop in the *cul de sac* of the conjunctiva.

The author had opportunity to observe a congenital cyst and considered it worth while to contribute this history of it, inasmuch as the microscopic examination shows that the case belongs to the category of the lymphangiomata.

G. B., a student of twenty-one years, consulted the author with reference to a swelling which affected the upper lid of the left eye. During the examination it was noticed that the upper right lid showed a slight degree of ptosis and that there was evident swelling in the temporal half of it. The skin of the lid was normal. When the eye was widely open nothing abnormal was observable, but when the lid was everted a tumor was visible in the inner part of the *cul de sac*.

This tumor was transparent and pink. Palpation shows it to be soft and of the general character of a cyst. It is mobile, of the size of a hazel nut, whose axis is parallel with the *cul de sac*. The cyst was not painful either by itself or when touched. Apart from the unpleasant feeling resulting from the opening of the lids, the patient feels no discomfort from it. The patient says that the tumor has existed from his birth, that it was originally small, but that it has greatly increased in size, and that this is the reason for his decision to have it removed. The sight of this eye is not good. Ophthalmic examination showed no lesion of the fundus.

The article says that with an optical correction which is stated, this eye saw "*die vorletzte Linie der Snellenschen Proben tafel*." Inasmuch as the next to the last line of Snellen's card, of the kind used by the present abstracter, represents what is universally held to constitute normal acuteness of vision, it may be assumed that the correction stated sufficed for the acquisition of such average visual acuity. If, however, the last line is

assumed to be the 100 per cent. of average vision, the usual "*next to the last line*" would represent but 60 per cent.

The left eye was normal. The cyst was excised under local anesthesia. It was adherent to the conjunctiva of the *cul de sac* of the upper lid as well as to the surrounding parts. It extended two and a half centimeters into the orbit. The course of the healing after the operation was uneventful. The cyst was opened with a fine scissors. It contained a serous, colorless fluid. Microscopic examination of this fluid showed that it contained white blood corpuscles and epithelial cells. The cyst was prepared in sublimate and embedded in paraffin. The section was stained by the usual methods.

The cyst consisted of a single vacuole, whose wall showed several folds. This wall was clothed with a row of epithelial cells, with a large nucleus in the middle of each. This epithelial gathering shows some similarity to endothelium. In a few parts of the tumor these epithelial cells seem to have several thicknesses, but this arrangement results from the oblique section of the tumor.

In the endothelium is found a thick layer of connective tissue, whose fibrillae lie close together and constitute the real wall of the cyst. The direction of the fibrillae is in a parallel line with the cyst wall. Between the conjunctival fibrillae are found muscle fibrillae as well as connective tissue cells.

Under the hard connective tissue layer are to be found others composed of spongy connective tissue, mixed with a few elastic fibers. This layer does not really quite belong to the cyst, but binds it to the surrounding parts.

Microscopic examination of our case shows that the structure of the cyst bears no resemblance to that of other cysts which are usually observed in the conjunctiva; for instance, the cysts which arise from glands possess a wall which is composed of a simple or stratified, columnar or pavement epithelium supplied with goblet cells, whose location is on the bulbar conjunctiva or in the *cul de sac*.

Hydatid cysts have an entirely peculiar wall, consisting of several connective tissue fibrillae, which unite in bunches and constitute pavement layers. All kind of epithelial participation is here lacking. The structure of the cyst in question is quite similar to that of one whose history Sourdilles published under the name of "Cystic lymphangeoma." In Sourdilles' case the cyst was of the size of a green pea and was hidden by the under lid. It lay under the conjunctiva of the left eye and extended from the sclero-corneal limbus of the *cul de sac*. The structure of this cyst was constituted by an endothelial layer, which showed a row of pavement epithelium under which was found a layer of elastic fibers.

Under this layer there was another of homogeneous tissue. The author reviews the reports by several authors of similar cases of cysts, and concludes by saying that Sourdilles compares his case with the cystic lymphangiomata, which develop in different parts of the body and are congenital. Cosmettatos says that because of its structure he considers the reported case one of cystic lymphangiomata, which had for its cause some disturbance in the development of the lymph channels.

ALBANY MEDICAL ANNALS

Original Communications

FARADAY: HIS LIFE AND WORK.

Read at a meeting of the Eastern New York section of the American Chemical Society held in Albany, November 6, 1908.

By WILLIS G. TUCKER, M. D.

The scientific accomplishments and the personal character of the great men whom we rate as Heroes in Science must ever be subjects of interest to those engaged in scientific pursuits, but in the hurry and bustle of our present-day activities we seldom find time to consider them unless it be on some particular anniversary occasion, or when we gather, perhaps tardily, to dedicate some memorial designed to perpetuate the memory of their achievements. And so I have felt that my theme this evening might be deemed hardly appropriate at such a meeting as this, and I can only hope that the intrusion of such a subject may find its justification if I shall be able to interest you for a time in the consideration of the personal character, and the supremely important work, of the great philosopher Faraday, and shall succeed in presenting these in such a way that we may draw some inspiration from a contemplation of them that may serve both as stimulus and encouragement in the work in which we are variously engaged.

Faraday has been dead for over forty years and to some of

us is little more than a name. We may think of him as we do of Galvani and Volta, Oersted and Ampere, as belonging to a past century and the brilliance of his achievements thrown into the shade by the strong light of latter-day accomplishments, but if we hold this view we do him and them great injustice and unduly magnify recent scientific developments. For Faraday belongs to a small and select circle of men supremely great and deserves to rank with discoverers like Copernicus, Kepler, Newton and Lavoisier, who laid the foundation stones of modern science. And it sometimes seems that the day of such epoch-makers had passed, and that the crop of fundamental and demonstrable facts in science had been largely harvested. What is the discovery of argon to the discovery of oxygen and the nature of the atmosphere, or the discovery of the radio-active elements to the isolation of hydrogen and the discovery of the nature of water, or the applications of electricity in modern engineering which constitute a gradual development, to the discovery of induced currents. Surely there were giants in those days. Let us not overestimate the real value of present achievements because their material results have been so great, nor fail to see how largely these accomplishments are based upon the labors of those who, like Faraday, labored without thought of material reward. Will it not always be found that such men lived far in advance of their day and have been content with the thought that in later centuries their discoveries would find due recognition and useful application.

As a boy I read Faraday's Christmas lectures at the Royal Institution on the "Physical Forces," and on the "Chemical History of a Candle," which had been re-published in little volumes in this country by the Harper's in 1860 and 1861. These delighted me beyond words and made an indelible impression upon my mind. When Faraday died in 1867, I had begun the study of chemistry, and was a subscriber to the American reprint of the *Chemical News* which was issued in New York in monthly numbers from July 1867 to June 1870, when it was succeeded by the *American Chemist*, issued in similar form, and edited by Dr. C. F. Chandler and his brother W. H. Chandler, which lasted until April 1877. Bound volumes of these journals are in my library to-day. In the number for November 1867 there appeared a notice of Faraday's death which had occurred in August, with a brief memorial by Sir William Crookes, then, as now,

the editor, and containing as a supplement the excellent wood engraved portrait which I now exhibit and which I so much admired at the time that I had it framed for better preservation. Subsequently I read in the same journal Dumas' Faraday Lecture, delivered before the Chemical Society in the theatre of the Royal Institution on June 17, 1869, and the two discourses by Tyndall when they were re-published in this country. And so I have always been an admirer of this great man but my interest in him was rekindled a few years ago when I came across his correspondence with Schonbein edited by Kahlbaum and published in English at Bâle in 1899, and the perusal of this volume led me to secure Dr. Bence-Jones "Life and Letters of Faraday," an admirable biography, and this I read together with all the other memorials which had appeared, and copies of these volumes I have placed on the table this evening for your inspection. With these I have included a copy of his "Chemical Manipulation," and a familiar copper-plate portrait with which is framed an autograph letter. The large volumes of his "Experimental Researches in Electricity," containing the record of his life work, will be found in all the large libraries.

Michael Faraday was born, September 22, 1791, at Newington Butts, then a small village in Surrey but now a part of the city of London, being the third son of James and Margaret Faraday who had but recently removed from the village of Clapham in Yorkshire. James Faraday was a blacksmith and came of a family of respectable working people that had resided at Clapham for several generations. In 1796 the family was living in Jacob's Well Mews, Charles Street, and here they remained until 1809, when they moved to 18 Weymouth Street, Portland Place where James Faraday died, but his widow resided here for some years thereafter, supporting herself by taking in lodgers until her sons were able to support themselves. She was a good woman, but quite uneducated, and during her later life was supported by her son of whom she was very proud. Thus may we see how from the lowliest origins there sometimes spring the noblest intellects which grace the history of the world's civilization, and many such have dignified science and made its annals illustrious.

Michael had little schooling. In 1804 he went to work for a bookseller as errand boy at No. 2 Blandford Street. His employer was George Riebau and his house is still standing and

marked with a tablet reciting the fact that Faraday worked here. Years after he took Tyndall to visit it. One evening after leaving the Royal Institution they went to pay a visit in Baker Street. "Come Tyndall," said he, "I will show you something that will interest you." "We reached Blandford Street," says Tyndall in his memoir, "and after a little looking about, he paused before a stationer's shop and then went in. On entering the shop, his usual animation seemed doubled; he looked rapidly at everything it contained. To the left on entering was a door, through which he looked down into a little room, with a window in front facing Blandford Street. Drawing me towards him, he said eagerly, 'Look there, Tyndall, that was my working place. I bound books in that little nook.' He asked the woman her name—her predecessor's name—his predecessor's name. 'That won't do,' he said, with good-humored impatience; 'who was *his* predecessor?' 'Mr. Riebau,' she replied, and immediately added as if suddenly recollecting herself, 'He, sir, was the master of Sir Charles Faraday.' 'Nonsense,' he responded, 'there is no such person.' Great was her delight," adds Tyndall, "when I told her the name of her visitor; but she assured me that as soon as she saw him running about the shop, she felt, though she did not know why, that it must be 'Sir Charles Faraday.'"

Faraday was apprenticed to Riebau and remained in his employ for seven years reading the books that came under his hands as opportunity offered. Watts "On the Mind," he said, first made him think, and the article on electricity in a cyclopaedia which he bound first turned his attention to science. Long afterwards he wrote that he "delighted in Marcet's 'Conversations on Chemistry' and the electrical treatises in the Britannica. I made," he continues, "such simple experiments in chemistry as could be defrayed in their expense by a few pence per week, and also constructed an electrical machine, first with a glass phial, and afterwards with a real cylinder, as well as other electrical apparatus of a corresponding kind." This machine, together with some of the books which he bound, is now preserved in the Royal Institution.

One evening he saw displayed in the street a bill announcing some evening lectures upon natural philosophy to be delivered by Mr. Tatum in Dorset Street. With his master's permission, and with money given him by his brother Robert who was a blacksmith and subsequently a gas-fitter, he attended about a

dozen of these lectures, making full notes of all he heard. At these lectures he made the acquaintance of various young men who encouraged him in his efforts, and were helpful to him in many ways, and particularly attached himself to one Benjamin Abbott with whom he subsequently carried on a long correspondence. His letters have been preserved and many of them are published in Bence-Jones Life. "They are remarkable," says Professor Thompson in his Life of Faraday, "for their elevated tone and excellent composition. The most wonderful thing about them is that they should have been written by a book-binder's apprentice of no education.

But we must not dwell too long on these early days. Interesting indeed it would be to trace the development of this great mind and yet I am not sure that the attempt would be successful. It has always seemed to me that real genius in science, as in mathematics and in music, is innate, and that it owes little to teachers. "I am inclined to agree with Francis Galton," says Darwin, "in believing that education and environment produce only a small effect on the mind of any one and that most of our qualities are innate." Our conservatories are filled with pupils laboriously engaged in the study of music but the real masters in music have had as a rule little instruction, or they have soon outgrown the need of teaching. And so in science, our schools and universities are filled with students who never surpass respectable mediocrity, while the great scientists who have taught the world have learned little from teachers. I suppose that Faraday at his best period would have been unable to pass such an examination as is required for entrance to one of our technical schools to-day. He knew no mathematics, and once said humorously that the only mathematical calculation he ever made was when he turned the handle of Babbage's calculating machine, and yet his generalizations have been corroborated by mathematical proofs, and his observations have anticipated mathematical deductions. Thus in a letter to Phillips, written in 1831, and referring to electrical induction and rotation he says:—"It is quite comfortable to me to find that experiment need not quail before mathematics, but is quite competent to rival it in discovery; and I am amused to find that what the high mathematicians have announced as the *essential condition* to the rotation—namely that *time is required*—has so little foundation, that if the time could

by possibility be anticipated instead of being required—i. e., if the currents could be formed *before* the magnet came over the place instead of *after*—the effect would equally ensue.” And so also he had not even a reading knowledge of even French or German. During his visits abroad he picked up a little conversational Italian and French but he was unable to read any foreign language with fluency, and yet he was informed as to all foreign discoveries and his own papers were translated into foreign languages as soon as they appeared. Now it will not be thought that I am not asserting that mathematics and languages should not be taught, nor that they may not be helpful to all and necessary to many. Nor am I asserting that Faraday would not have been better equipped, and might not have done better work, had he received a better education, though I am by no means sure of this. I am not discussing a pedagogic principle, but am illustrating the innate powers of mind possessed by intellects of the first class,—that is by the genius, and Faraday was a genius.

Among Riebau's customers was a Mr. Dance, who took a liking to Faraday and secured him admission to some of Davy's lectures at the Royal Institution in 1812. Writing out his notes of these lectures, with care, and interspersing them with such drawings as he could make, he sent them, in youthful simplicity of mind, to Sir Joseph Banks, then president of the Royal Society, soliciting his aid and advice. Naturally he received no reply but, by no means discouraged, and acting under Mr. Dance's advice, he sent another copy to Sir Humphry Davy himself, and to this he received a kindly answer. This was in 1812 and early in the succeeding year he called on Davy, who received him in the ante-room of the lecture theatre. Davy advised him to stick to his trade, but subsequently employed him temporarily as an amanuensis, when he had been wounded in the eye by an explosion of chloride of nitrogen, and in March employed him to fill a vacancy as assistant in his laboratory at the Royal Institution. “At this time,” wrote Faraday in 1829 in a letter to Dr. Paris, “he (Davy) still advised me to give up the prospects I had before me, telling me that science was a harsh mistress; and in a pecuniary point of view but poorly rewarding those who devoted themselves to her service. He smiled at my notion of the superior moral feelings of philosophic men, and said he would leave me to the experience of a few years to set me right on that matter.” His

appointment dated from March 1, 1813 and his salary was twenty-five shillings a week with two rooms at the top of the house. His duties, as laid down by the managers, were to attend the lecturers; assist in the preparation for the lectures, and keep the apparatus and models clean and in order.

Thus was Faraday introduced to the world of science. His education, as we ordinarily use the word, was completed. Thenceforth his school was to be the world, and nature his teacher. He was to learn by observation, and cultivate his mind and develop his powers by introspection, meditation and self-discipline. Some years previously Mr. Tatum had organized a society known as the City Philosophical Society, made up of young men in moderate circumstances who met weekly for mutual improvement, and this society Faraday joined, and in it soon became a leader. Dissertations were given every fortnight by members in turn and here his first lectures were delivered. Edward Magrath was secretary of this society and in his journal Faraday writes: "During this spring (1813) Magrath and I established the mutual improvement plan, and met at my rooms or at his ware-house. It consisted of perhaps half a dozen persons, chiefly from the City Philosophical Society, who met of an evening to read together, and to criticise, correct and improve each other's pronunciation and construction of language. The discipline was very sturdy, the remarks very plain and open, and the results most valuable. This continued for several years."

In the fall of 1813 he was invited by Davy to accompany him on a trip abroad. He went, though not without some misgivings, and traveled with Davy and Lady Davy in France, Italy and Switzerland for eighteen months. Up to this time he had never been further than twelve miles from London so that a new world was opened to him, but on the whole he was glad to get back again, and I do not think that his foreign experiences were particularly helpful to him. He recorded these experiences in a carefully kept journal and it is evident that he cared nothing for society, for outward show and display, and little for art. With Davy he visits Ampere and other French chemists, and sees the newly discovered iodine, just isolated by Courtois the elementary nature of which was not then understood. They work on it together in Chevreul's laboratory, and Davy with quick intuition satisfies himself as to its character. They meet Humboldt and hear Gay Lussac lecture, and he

catches a sight of Napoleon and describes him "sitting in one corner of his carriage, covered and almost hidden by an enormous robe of ermine, and his face overshadowed by a tremendous plume of feathers that descended from a velvet hat."

Faraday's companionship with Davy during their travels abroad was marred by some disagreeable happenings. Davy, though country born, had developed into a man of fashion, married a wealthy widow, been knighted, and cultivated aristocratic society, while Faraday throughout his life was a man of the simplest habits, caring nothing for rank and fashion. A few days before leaving England Sir Humphry's valet left him and another could not be secured, nor were the services of any other obtained for some time. Davy recognized Faraday's ability and soon became jealous of him, but Lady Davy, who was of an imperious disposition, was disposed to treat him as a servant, refused to have him at table, and looked upon him as an inferior person. He makes no mention of all this in his journal, but in a letter to Abbott, who had inquired particularly into the matter, he says, referring to Davy's lack of a valet, "This of course throws things into my duty which it was not my agreement and is not my wish to perform. These it is true are few; for, having been accustomed in early years to do for himself, he continues to do so at present, and leaves very little for a valet to perform. * * * But Lady Davy is of another humor. She likes to show her authority, and at first I found her extremely earnest in mortifying me. This occasioned quarrels between us, at each of which I gained ground, and she lost it; for the frequency made me care nothing about them, and weakened her authority, and after each she behaved in a milder manner." Such incidents illustrate the innate self-respect, and sturdy common-sense which were his characteristics through life. How he impressed others at this early day, unknown and inexperienced as he was, may be seen from such statements as that of Dumas, who in his "Eloge Historique," speaking of Davy, says: "His laboratory assistant, long before he had won his great celebrity by his works, had by his modesty, his amiability and his intelligence, gained most devoted friends at Paris, at Geneva, at Montpellier," and he refers particularly to the respect shown him by de la Rive, Berard and others. He adds: "We admired Davy, we loved Faraday."

(To be continued)

ASSOCIATION OF THE ALUMNI OF THE ALBANY
MEDICAL COLLEGE—THIRTY-SEVENTH ANNUAL
MEETING.

The thirty-seventh annual meeting of the Association of the Alumni of the Albany Medical College was held in the amphitheatre on Tuesday, May 17, 1910. The usual informal reception was held in the college library, where photographs were exhibited, and greetings exchanged between the hours of 9 and 11 A. M. The meeting was called to order by the President, Dr. Sheldon Voorhees ('79) of Auburn, N. Y., at eleven o'clock.

The following named members of the Association, with invited guests, students of the college and others interested, were present: A. B. Husted, ('63); D. C. Case, H. J. Cornish, W. G. Tucker, ('70); G. L. Ullman, ('71); D. H. Cook, ('74); F. H. Brewer, C. A. Ingraham, ('78); W. C. Crombie, O. T. Kinloch, J. J. McAllister, W. J. Nellis, ('79); S. C. Burton, E. C. Collins, W. B. Madison, J. Seward White, C. F. Wicker, ('80); J. H. Mitchell, ('81); A. Y. Myers, F. H. Palmer, W. B. Sabin, ('82); R. Babock, L. B. Rulison, ('84); A. MacFarlane, C. H. Moore, ('87); J. Archibold, ('88); J. M. Mosher, F. S. Snow, W. Van Doren, ('89); E. V. Colbert, A. G. Root, M. A. Steele, ('90); J. B. Grover, H. E. Lomax, ('92); T. W. Jenkins, P. G. Waller, ('93); C. G. Cole, ('97); G. B. Stanwix, A. H. Traver, ('98); C. G. Hacker, J. A. Lanahan, ('99); K. A. Campbell, L. Emerick, E. H. Sweet, (1900); A. J. Bedell, ('01); J. H. Gutmann, ('02); V. D. Selleck, J. N. Vander Veer, ('03); J. I. Cotter, ('04); T. A. Hull, G. W. Papen, jr., W. G. Rommel, H. M. Southworth, ('05); W. A. Reynolds, ('06); F. Garten, J. J. Lyons, M. W. Platt, ('08); W. D. Allen, W. D. Ayer, J. F. Beiermeister, C. Bledsoe, E. F. Connally, P. C. Hacker, E. W. Hannock, W. S. Lilienthal, E. B. Manion, J. J. McCall, G. B. Randall, W. T. Rivenburgh, L. G. Rymph, J. T. Southwell, J. A. Sullivan, J. E. White, ('10); S. B. Ward, (Hon.).

On motion of Dr. Tucker, the reading of the minutes of the last annual meeting was dispensed with and the minutes were approved as printed in ALBANY MEDICAL ANNALS.

The President introduced Professor Arthur G. Root, who delivered the following address of welcome on behalf of the faculty:

ADDRESS OF WELCOME.

DR. ROOT'S ADDRESS.

Mr. President and Members of the Alumni Association, Gentlemen:

It was a wise philosopher, and gentle poet, who formulated the sentiment that

"A boy's best friend is his mother."

With feelings akin to those that fill our breasts when we hark back to the days of childhood, and dwell on the loving ministrations of her whose tired hands, mayhap, are now peacefully folded, we gather to-day as brother alumni at the feet of our medical Alma Mater. Whatever of worldly success, whatever of professional reputation, may have come to us in the years between, we owe to her wise counsel.

I am deeply sensible of the honor you have conferred upon me, in permitting me to present to you the few thoughts pertinent to this occasion that have suggested themselves to me in the midst of a somewhat strenuous life, where "preaching and practice" leave little time for literary production. The environment of this old and familiar amphitheatre, with its time-worn circle of seats overlooking the arena wherein the gladiatorial contests between the forces of nature and modern science have been so fiercely waged in our breathless presence, gives little indication of the march of human progress since the founders of the Albany Medical College planned the superstructure upon which has been reared their lasting and enduring monument in the hearts of a grateful public.

The old order changes, and the primitive habits of life of an earlier generation have given way to all the refinements and luxury of a people among whom the flight of man, like a bird through the air, excites less astonishment than the advent of the first umbrella in the streets of London. But whatever may have been the advance in material prosperity, or along the lines of our sister professions, we have kept pace with the procession, and upon the honor roll of no other medical school are there to be found more shining examples than upon that which claims us as its graduates. To those of us who have long since received our license to minister to the ills of suffering humanity, to-day brings feelings of deep gratitude to those great physicians and patient teachers from whom we received our early training. Such is the impulse of human thought, that every skillful suggestion received by us from this source, has produced its untold effect for good, and ever so will continue through the years to come.

Occasions that are marked by the return of the alumni to their Alma Mater, are naturally suggestive of a backward glance. To those who are to-day to reach forth their hands for the coveted prize of a legal permit to join the ranks of the older practitioners, the future seems to be the only worthy object of serious consideration. But from experiences of the past, and from hopes of the future, are to be deduced the lessons that make for a well-rounded professional character. It is our proud privilege to practice a science that, in importance and oppor-

tunities, overtops all other human occupations. While our daily life brings us in contact with the suffering side of humanity, the gloom and depression of it all are soon dispelled when our successful efforts alleviate pain, overcome disease, and close for a time the yawning portals of death. No other class of men can possibly come so close to the lives of their fellow beings.

Fortunate, indeed, is the physician who preserves a sunny disposition amid his surroundings, and carries into the sick room a spirit of cheer and hopefulness! With the old-time bolus, and glittering lancet, have departed the sombre visage and lugubrious demeanor. Hypnotic suggestion is more than an echo of Mesmer; the influence of mind over matter more than a scientific theory. The well-equipped optimist will soon outstrip the equally well-equipped pessimist, not only among those of our chosen calling, but in all the ranks of life.

The age in which we live is not only marked by gigantic advances in the domain of the science of medicine, but it bears the impress that naturally flows from such a development. Material success is the sure reward of those of us who keep in the front rank of the great army of healers. But herein lies the one great danger of the day and generation. "To whom much has been given, from him much will be required" is as true to-day as it was centuries ago. And an eye-single to personal advancement, and the acquisition of this world's goods, can never be the sole impelling motive where the fullest fruition of time and talent are sought. Our opportunities are countless, our personal influence on the lives of our fellow men almost incalculable, and the resultant responsibility proportionate. Do we measure up to the situation? Do we realize the eternal verities that underlie all human reasoning, and which, in the ultimate analysis, we must all concede?

As we gather here to-day, the newly-fledged to whom we have striven to impart the truth as we know it, and the mature and experienced who have returned to renew old associations and cement old friendships, we cannot fail to be impressed with the belief that the shades of the departed great are viewing us with kindly eyes, glad if, after their labors, "their works do follow them." If we, who give of the fruits of experience in clinic and lecture, have proven ourselves worthy successors of a long line of eminent teachers within these walls, a roll of names with which you are all familiar, then, indeed, can we look our Alma Mater in the face with pride and confidence.

I welcome you, one and all, to this annual reunion. May your stay within the gates of this old city, where your student days were passed, be filled with pleasant reminiscences, and may the mellow light of memory enwrap you in its magical haze until all the way ahead seems bounded by "faith, hope and charity."

On motion of Dr. S. C. Burton, the thanks of the Association were tendered Professor Root for his address and a copy was requested for publication.

Dr. Willis G. Tucker then moved that the President appoint a committee of five to nominate officers for the ensuing year.

Carried. The President appointed as such committee: Drs. Frederic H. Brewer ('78), William B. Sabin ('82), John H. Gutmann ('02), Frank S. Snow ('89), and George Stanwix ('98).

The Recording Secretary presented the

REPORT OF THE EXECUTIVE COMMITTEE AND RECORDING SECRETARY.

Three meetings of the Executive Committee have been held during the year. At the first meeting, held May 26, 1909, the recording secretary was authorized to publish the minutes of the thirty-sixth annual meeting of the Association in the ALBANY MEDICAL ANNALS and to provide reprints for distribution to the members of the Association. The treasurer was directed to pay the cost of the reprints and of the envelopes for mailing. It was announced that the reprints would be mailed with the College catalogues, the postage being paid by the faculty. Dr. Bedell reported for the committee on entertainment on Alumni Day showing a deficit of \$141.33 in the cost of the entertainment; this deficit the treasurer was authorized to meet by payment from the general funds of the Association.

The second meeting of the committee was held on March 12, 1910, at which the treasurer reported a balance on hand of \$22. The entertainment for Alumni Day was discussed and a committee of arrangements of five members was appointed by the President. Dr. Erastus Corning was elected to membership in the committee in the place of Dr. William Geoghan, deceased.

The third meeting was held on April 23, 1910, when the report of the committee of arrangements was received and the committee was authorized to proceed with its work.

On motion of Dr. William G Lewi, the report of the Executive Committee was accepted and ordered entered upon the minutes.

The Treasurer, Dr. Robert Babcock, presented his report for the year as follows:

TREASURER'S REPORT.

CR.

Balance on hand May 1, 1909.....	\$132 28
Dues received during year 1909.....	156 00
Total.	<u>\$288 28</u>

DR.

Various bills paid for which vouchers are presented.....	<u>\$271 18</u>
--	-----------------

Balance on hand May 1, 1910.....	\$17 10
College Building Fund.....	\$122 29

[Signed]

ROBERT BABCOCK,
Treasurer.

On motion of Dr. Root, the Treasurer's report was referred to an auditing committee, consisting of Drs. Mitchell, Myers and Jenkins, who subsequently reported it correct. The report of the Auditing Committee was received and the committee discharged, and the report of the Treasurer was accepted and ordered placed on file.

The President's address being the next order of business, Dr. McAllister, an Ex-President of the Association, was called to the chair and President Voorhees delivered the following address:

PRESIDENT VORHEES' ADDRESS.

Gentlemen of Faculty, Fellow Alumni: Coming, as I do, from those who have always done general work, doing a little of many things, makes the range of topics upon which I might address you almost as limited as though my work had been that of a specialist, and confined to a single one of the many divisions into which our profession is separated.

Recently we have heard a great deal about Conservation, in its relation to economic affairs. From the medical point of view there is no question of as great importance at the present time as that of the Conservation of Individual, Community and National Health.

There does not seem to be cause for alarm in a low birth rate. It even seems proper to restrict it, until deaths from preventable causes are greatly lessened. In the domestic animals the propagation of undesirable specimens is largely prevented by the mating of only the best types of a given strain. In the wild animals the strong prevail, the weak falling a prey to the more powerful. Why should the human family continue to be bred in a haphazard way, with no regard as to what the progeny is to be? We have here the fundamental cause of degeneracy, with all that it implies—the criminal, the insane, the alcoholic, the defective, morally, physically and mentally.

It will at once occur to you that the questions involved have a great many phases, and that there is no consensus of opinion as to the best way to meet them.

Almost every nation is beginning to realize that the health of its people is its greatest asset. The nation that would have a healthy people must have an earnest, educated medical profession, and be guided by the advice of its best medical authority.

One in seven of our people have been dying from tuberculosis; nearly as many from pneumonia; throughout the United States fifty thousand die from typhoid fever each year; a half million more lie sick for weeks, but finally recover; cancer has about the same number of deaths as typhoid; more than one-quarter of our children die before they are one year old; three-quarters of our deaths appear to be from preventable causes.

A prominent chief of police affirms:—that eighty per cent of the men in our large cities have some form of venereal disease. While this seems to be beyond belief, specialists in this department of medicine corroborate his statement. Governments spend money freely to prevent coitus dis-

ease in domestic animals; the spirochete, which causes similar disease in the human family, may be spread, and is spread, by thousands in this country, without restraint, under the assumption that personal liberty should be secure to every one. Marriage of persons with venereal disease is unfit, it is a crime, and its frequency justifies a medical examination, both of the innocent and of the guilty. Incurable disease always renders the subject unfit to marry. All hereditary defects, degenerates of all types, are unfit, and if of reproductive age, should be held in such restraint that reproduction is out of the question. If this cannot be done, then they should be made sterile. Is it not time to give up the attempt to control venereal disease by moral suasion? Even the medical man may smile as he talks of these diseases, but they are disgraceful conditions, and should be added to the list of dangerous diseases, and every one found infected should be placed under control until free from the infection. It is no unusual occurrence for the medical man to be called upon to determine by an examination whether or not a given individual is free from disease. If we are to progress, the time will come when every person will require an examination by a careful physician, at regular intervals.

The resources of research and the power of definite purpose have become factors of great energy in human advancement. At no former time have we as a race shown so clearly that we are guided by moral purpose in seeking desired ends. In this advancement the medical profession cannot be standpatters, but must, by virtue of their special training, be well up in advance. All large centers of population and some of the smaller ones at this time have become centers of laboratory research. These are of comparatively recent growth. Such that the medical graduate of only a few years knows little of these branches of his profession. Thirty years ago to be called an eclectic was possible and be respectable. To-day both eclectic and allopath are obsolete terms. Homeopath is following along rapidly; and in the wake of these are some new "pathies" which we hardly know how to classify. The practice of medicine is too great for one mind to grasp. How long is it likely to be before the general worker in medicine will have to give way to the many divisions of the art, which grow as the years pass along?

The research department of medicine, with some things which it has so far hesitated to take to itself, is in its infancy, with a future of great promise. None of the earlier races made systematic inquiry into the conditions under which we live. We are beginning to realize what research is doing in rendering the forces of nature subservient to control, and in giving man control of maladies of which for long ages he has been the victim. Medical ethics have long been a subject of question, but when it joins with research in an earnest endeavor to bring about the greatest good to the race, the age of humanity will be well under way.

How often does our work come to us after disease has done its deadly work, medical and surgical junk, as the case may be; how often these same conditions treated in their incipency would have brought about healthful conditions to body, mind and morals. When an alarm of fire is

sounded, the efforts of men, horses and apparatus are taxed to their utmost limit. Nothing can interfere with the putting out of the fire, in the shortest possible time. How does this compare with the way we treat acquired defects and diseases, as we find them in the chronic alcoholic, the various types of venereal disease, the beginnings of a criminal career, the social delinquent,—what are they good for as far as reconstructive work applies?

Less than four per cent of our criminal class are confined in reformatories, twenty-eight per cent have sentences of less than one month, nineteen per cent for a period of one month, eight per cent for two months, eleven per cent for three months;—short term sentences appear to be the school where sixty-five per cent of the criminal class take their lessons in crime. Short sentences are the school from which they frequently are graduated to the advanced grades in due time. Crime leads to defective and degenerate conditions. These states are a departure from the normal. Abnormal conditions, and the causes leading to them, should come early under the care of the physician. The greater number of arrests made by the municipal police are from among those who frequent saloons. Twenty-three per cent of crime is caused directly by drunkenness, and a large per cent of vagrancy and of those guilty of disorderly conduct is due directly to the same cause. If acute alcoholism is to be treated by the physician, why should not the milder effects of the same cause also be treated by him? The care of the incipient criminal should not be left to the creature of any political party. No matter how competent he may be, the first political change passes him along, and a new aspirant for the honor, or possibly the fees which go with the office, takes his place. Alcohol is a valuable drug; it is also a poison, both in small and large doses; the same law which applies to other poisons should apply to alcohol. Keeping a saloon open from eleven o'clock until one o'clock in the night, and opening it before seven o'clock in the morning, is positively bad for the public health; whatever it may be for the rest of the day; and is the beginning of a long line of troubles relating to the health of the people.

Conservation of public health is in its infancy. Practical methods in which the general public is in sympathy are lacking. Education and training are needed along these lines; methods in which the majority of the profession are not in sympathy are of doubtful expediency. The work will not progress under an official lacking in practical methods. The word "health" is of large and broad meaning, as applied to the various conditions under which the human family exist. In no small measure the environment, heredity and acquired conditions influence the mental, moral and physical outlook, of a given individual. If the environment is unsuitable, abnormal conditions of some sort are liable to intervene. The study of climate, and its effects upon the unacclimated individual, is a matter worthy the attention of the National Department of Health, which we hope we are to have in the near future. In recent years we have been receiving large numbers of immigrants from races different from the original stock with which the country began. Is the gradual intermixture going to be for our advantage, or will we

become a nation of cross-bred people, lacking in virility and stability of purpose? In the breeding of domestic animals progress has been made only by adhering closely to definite and distinct lines. If a dairy animal is wanted, only stock of pronounced dairy type must be used for the ancestry. All through the different varieties the better the type in conformation, soundness and disposition, the better the progeny. In sacred history we read of Boaz, a Hebrew, with a long line of Jewish ancestry, taking Ruth, of the Land of Moab, for a wife; King David came along a few generations later; in this instance no untoward result came from the out-cross. Centuries ago the injunction was given, "Know thyself" it has gone unheeded. "The greatest study of mankind is man" only if the principles upon which depend his civilization and prosperity are applied. Vital facts regarding the life history of the young of our kind is still a sealed book, which has not been opened.

In our cities many things which should be under the care and supervision of medical men are still looked after by the politician, the layman, and the charitable. A large percentage of crime in its incipency first comes under the observation of the police. At this time, for its proper management it should come under a training and intelligence of the highest order. Under the present method, too often the tendency is to increase the inclination of the individual to come in collision with the forces which are intended to bring about law and order. If, from the police court, the transgressor goes to the jail, the same conditions are at work, the tendency to irregular thought and action is cultivated rather than treated and controlled. Irregular tendencies of the individual should be placed under the care of the medical man at a much earlier period than is now permitted. The male nurse will do good service, as a part of the municipal police, and also in the jail. Both of these departments of public control should be placed under the care of a specialist in this line of work.

Half-hearted, indifferent support of the medical profession is all that can delay the growth and development of sanitary science. The public is asking for more knowledge. It is falling into line, and results are expected everywhere. The very nature of the doctor's training demands that he take the lead in this upward climb for better things. It will require the learning of new methods. Who will say that this is not very much better than being left behind, and ignored? Unless the doctor broadens the horizon of his work to include more thorough knowledge and better practice of the preventive side of his profession the future holds no bright beacon of promise across his pathway. The doctor sometimes pulls at cross purposes with his brethren to so great a degree that his sight and hearing become dulled. All the most useful knowledge of the world, bearing upon this subject, is at his command, and his alone. Who is to blame that the general public is just beginning to realize that to get typhoid fever they have to take into the stomach a portion of the discharges from one sick with the disease? Similar facts might be noted. These facts are beginning to penetrate as a great light the brain of the public. The greater part of the profession have had but a small part in this illumination. Each one of us bears his own torch, but it

is as though the world is dotted with lightning bugs, when they should be great dynamos, or immense electric searchlights, to energize the many-sided truths of the science of health. Since the establishment of the garden of Eden came knowledge, with its great responsibility and the medical man has accepted the charge as the keeper of his brother.

YOUNG MEN, GRADUATES IN MEDICINE OF THE ALBANY MEDICAL COLLEGE,
CLASS OF 1910,

Gentlemen: It is my privilege to extend to you from the Alumni a welcome. It is our earnest wish to make this welcome cordial. We want you for our friends, and we desire you to include us among yours.

The higher you rise in your profession, the greater will we rejoice.

The diplomas, which you receive to-day, will make you changed men. When you accept them you assume obligations from which you can scarcely be relieved. It is our earnest wish that you may perform these duties with dignity to yourselves, and with honor to us.

It is related of Surgeon-General Stokes, when advanced to the grade of admiral, that he remarked, "I do not want to be an admiral,—I would rather remain a doctor." We may be sure that he is proud of his profession, and that there is no name he values as much as that of doctor. I believe everyone of *you* will find it the same, if you practice your profession to the end of middle life.

Back in the days of legend and myth, you will remember, there lived Prometheus, who brought fire from heaven for the use of his people. Every worthy man since that time has been a bearer of light. As we look back into the records of the past, the way is marked by those who have accomplished great and noble things. Their lives have been lights ever burning in the dark pathways of history,—lives that were of continuous effort and unflinching courage.

Long ago, Francis Bacon, in his prophecy of the future development of scientific knowledge, pointed out that previous labor helped to direct new experiment, in a way to penetrate more deeply into the hidden things of life. These helps he called lamps. You have been training and feeding your lamps, with industry, skill and obedience. You have been feeding them with the truths that have been tested by the fires of time, and from which the dross and waste have been removed, as age after age has added its contribution to the whole.

A noted and venerable artist was asked if he waited for the happy mood in which to work,—he replied: "Never,—I always keep at work. And when the impulse comes, it always finds me ready and obedient." Train yourselves in the school of sacrifice and self-control, that you may know opportunity, and be obedient and ready. I would not have you perfect. Perfection we rarely see. We have more pleasure in looking for it than in finding it. The human family for whom you will do your work is far from perfect, the extent of which depends upon the point of view from which we view them. If from the point of view of the angels, the view makes us faint and sick. If from that of the beasts from which man is risen, he is a great figure, worthy of all

honor. Good or bad, perfect or imperfect, he is the best thing you have, and it is your work to make the most of him.

We wish you Godspeed in the work which you begin to-day. We shall watch you with the greatest interest, and shall expect to learn much from the way you meet the various problems which will come to you. May you have long and useful lives, and add your mite to the widening horizon of medicine.

The members of the Class of 1910 were present in a body, and rose as the President addressed them at the conclusion of his address, and received them into membership in the Association.

Dr. James H. Mitchell moved a vote of thanks to the President for his interesting address, a copy of which he was requested to furnish for publication in the ALBANY MEDICAL ANNALS. Dr. McAllister put the motion to a vote, and declared it unanimously carried.

The report of the Historian of the Association, Dr. Bedell, was then presented and ordered entered on the minutes.

REPORT OF THE HISTORIAN, ARTHUR J. BEDELL, M. D.

Mr. President and Fellow Alumni: In reviewing the work of the 71st year of the Albany Medical College it is at once evident that advance has been made. The Albany Hospital is now complete in every department, with a pavilion for the insane, a pavilion for contagious diseases, and the recently opened tuberculosis sanatorium on the sand plains in the west of the city. The 100 beds of this last addition will afford abundant opportunity for the study of tuberculosis in all detail, much to the advantage of our students as well as to the general public. The clinical material of Albany is ever increasing for in 2 years we have had 180 new beds added to St. Peter's and Homeopathic hospitals, not including those for tuberculosis. Our dispensary facilities offer good opportunities for close observation. The clinical courses in specialties have brought the students in closer touch with the patients. Cases have been assigned for examination and diagnosis, which we believe give the student most valuable actual experience.

The year just closed had added 41 members to this association. These men have had thorough instruction, we consider them so well grounded as to demonstrate the ability of their professors to teach up-to-date medicine. Our progress has been certain and the position of our graduate undisputed.

Another evidence of life in this noble institution is the publication of a college book, *The Skull*. As I have said in another place it is well worth the time the senior class spent upon it and will be regularly edited.

The historian again urges every member to send a list of his appointments, change of residence, change of social condition or anything concerning our men. During 1910 we will send to every Alumnus a card for full registration to be filed for future use and addition.

Remember that we have an Alumni Journal, *THE ANNALS*, send your contribution to it, and be actively interested in its management. Be loyal to your Alma Mater for in upholding her you uplift yourself.

Since our last meeting twenty-two members have passed to their reward, some at ripe old age, after years of faithful service to suffering humanity, others while still filled with the freshness and enthusiasm of youth.

NECROLOGY.

- Henry C. Potter ('44), of California, April 4, 1909, aged 86.
 Garretson L. Carhart ('48), Marion, Iowa, April 20, 1909, aged 86.
 Henry K. McLean ('50), of Hoosick Falls, N. Y., April 8, 1909.
 C. C. Alexander ('54), of Albany, N. Y., February 9, 1910, aged 80.
 John Cipperly ('56), of Middle Falls, N. Y., February 7, 1910.
 Aaron W. Riker ('56), of Fenton, Mich., October 31, 1909, aged 50.
 Washington Akin ('58), of Troy, N. Y., August 19, 1909, aged 71.
 Clair S. Parkhill ('66), of Hornell, N. Y., July 21, 1909, aged 67.
 George A. Cox ('68), of Albany, N. Y., May 21, 1909, aged 63.
 John J. Ward ('69), of Ellenville, N. Y., May 22, 1909, aged 75.
 William Geoghan ('73), of New York, November 28, 1909, aged 50.
 Lyman Bulkley ('74), of Richmond Hill, N. Y., July 9, 1909, aged 75.
 Alvin H. Eccleston ('80), of Providence, R. I., January 23, 1909, aged 51.
 Samuel H. Morris ('81), of Rochester, N. Y., June 31, 1909, aged 76.
 George A. Bradbury ('83), of Troy, N. Y., April, 1909.
 Pierson C. Curtis ('84), of Round Lake, N. Y., September 6, 1909.
 Arthur D. Stowitts ('86), of Omaha, Neb., March 13, 1910, aged 48.
 Charles B. Mallery ('86), of Aberdeen, S. D., April 3, 1910, aged 45.
 William G. Healey ('97), of Cohoes, N. Y., March 15, 1910, aged 30.
 Frank M. Johnson ('98), Nassau, N. Y., November 8, 1909.
 Russel Clute ('03), of Amsterdam, N. Y., September 24, 1909.

CLASS OF 1840.

The class of 1840 consisted of seventeen members, all of whom have passed out of living history.

- DAVID S. BEARDSLEY, Pultneyville, N. Y., died March 26, 1897, aged 87.
 THOMAS C. DURANT, Boston, Mass., died.
 AMOS P. JONES, Randolph, N. Y., died April 3, 1880.
 ROBERT KELLS, died.
 MORGAN LEWIS, died Oct. 19, 1879.
 EZRA MAY, died.
 HENRY D. RANNEY, died Jan. 11, 1879.
 AMOS WESTCOTT, died July 6, 1873.
 DAVID C. WINFIELD, died May 23, 1878.
 HENRY GIBSON, no record.
 JOHN HALLAM, no record.
 JAMES O. MORIN, no record.
 FRANCIS N. SILL, no record.
 STETSON E. SOUTHWORTH, no record.
 WM. A. WESTCOTT, no record.
 SAMUEL W. WILSON, no record.

CLASS OF 1850.

- The class of 1850 numbered twenty-five, all of whom have passed away.
 GEORGE W. AVERY, Norwich, N. Y., died about 1888.
 JAMES S. BABCOCK, died Feb. 13, 1881.
 IRA M. DE LA MATER, Duaneburgh, N. Y., died.
 WM. F. HOLCOMB, 54 East 25th St., New York City, died Mar. 17, 1904.
 CHARLES E. MARSH, died.
 BRADLEY S. McCABE, Greenville, N. Y., died June, 1909.
 HENRY K. McLEAN, Hoosick Falls, N. Y., died April 8, 1909, aged 84.
 JAMES H. SALISBURY, 170 West 59th St., New York City, died Aug. 28, 1905.
 WM. B. SIMS, died Oct. 18, 1891.
 GEORGE BEAKLEY, no record.
 ALVIN COOPER, no record.
 HENRY C. FOOT, no record.
 E. WILLARD HARKER, no record.
 WM. N. HUBBS, no record.
 JAY KLING, no record.
 THOMAS H. NEELEY, no record.
 JOHN O. NILES, no record.
 WILLOUGHBY O'DONOHUE, no record.
 LEVI SHAFFER, no record.
 JAMES H. SMILEY, Scotchtown, N. Y., no record.
 ALFRED TEN EYCK, no record.
 EDWARD TUPPER, no record.
 RICHARD S. VALENTINE, no record.
 ALONZO G. WESTERVELT, no record.

CLASS OF 1860.

- ASBURY M. DAY, Farmington, Del.
 CHAS. DICKINSON, Seward, N. Y.
 C. A. GIBSON.
 WASHINGTON KILMER, Orlands, Fla.
 J. D. LOVERING, Newton Highlands, Mass.
 JOHN N. OLIVER, Essex, N. Y.
 WM. H. ROBERTSON, Denman (Van Zandt Co.), Texas, R. F. D. No. 7, from Canton.
 J. PHELPS SHUMWAY, 1131 South Westlake Ave., Los Angeles, Cal.
 FRANK H. TUTTLE.
 J. H. H. VICKERY.
 ROBERT T. BABBITT, died in United States service, 1864.
 JAMES G. BACON, died Saratoga Springs, 1878.
 A. G. BARNEY, died Dolgeville, N. Y., Sept. 2, 1888.
 J. P. BIDWELL, Morrisonville, N. Y., died March 17, 1908, aged 71.
 A. J. BROOKS, died April 16, 1890.
 N. S. CHEESEMAN, Scotia, N. Y., died Sept. 12, 1901, aged 67.

- J. M. DWAN, Pleasant Valley, N. Y., March 26, 1884, aged 50.
R. H. GRAY, Oneida, N. Y., died Dec. 17, 1893, aged 63.
FRANK J. MATTIMORE, Albany, N. Y., died 1863, aged 29.
C. B. O'LEARY, died Albany, N. Y., Nov. 19, 1877.
HENRY T. PHILLIPS, Cheshire, Mass., died May 24, 1901, aged 67.
D. F. VAN AKEN, Guilderland Centre, N. Y., died Jan. 30, 1903.
DE WITT C. WADE, Holly, Mich., died Nov. 4, 1904.
FRANKLIN A. YOUNG, died Dec. 17, 1886, W. Charlton, N. Y.

HISTORY OF THE CLASS OF 1870.

Dr. WM. W. APPLEY, writes from Cohecton, N. Y.:

"I settled here in Cohecton, Sullivan County, N. Y., immediately after leaving the Albany Medical College and am still in practice. So far I have made a good living at least, if no more, and I hope I am respected by the community in which I have lived so long. Am a member of the Sullivan County, N. Y., Medical Society, the Wayne County, Pa., Medical Society and of the New York and New England Association of R. R. Surgeons. I also have the pleasure of thinking that I was one of the organizers of the Erie Railroad Surgeon's Association in 1891 and for ten years secretary and treasurer. I am sorry that it is impossible for me to meet with you this year as in another ten years many of us will have made our final report. Hoping you will have a pleasant meeting, etc., I bid you an affectionate farewell."

E. S. ALLSBEE writes from Bellows Falls, Vt.:

"In the fall of 1871 I started in practice in Londonderry, Vt., as an assistant to an old physician where I remained two years; then started practice in Jamaica, Vt., where I remained until July, 1875, when I settled in Bellows Falls, Vt., where I have lived and practiced since. Suppose I have had the same experience as most practitioners in a small village. Am not heavily supplied with this world's goods, but tending strictly to business and not investing in any get-rich-quick schemes. And with the help of a prudent wife I do not see the poor farm staring us in the face. I tell my friends that I started with nothing and have held my own. I have always had a good practice here and still continue to have and think the longer I practice medicine I have the feeling that the better practitioner I am for I am sure I learn something every year."

D. C. CASE, Slingerlands, N. Y.:

"Soon after graduating I located in Stamford, N. Y., where I engaged in general practice. In the fall of 1877 located at Slingerlands, N. Y., where I still remain and in active practice."

H. J. CORNISH, writes from Walworth, N. Y.:

"After graduating in 1870 I returned to my father's home in Lewis County, N. Y. He had a large country practice and was in poor health

and wanted me to stay with him which I did for a few years working hard. His recovery became hopeless and as I did not take kindly to general practice I engaged in the drug business but found that the close confinement in the drug store was detrimental to my health and a little over twenty years ago accepted a position as traveling salesman for the Norwich Pharmacal Co. and am still engaged with them and probably will remain with them as long as they are satisfied with an *old man*. My work is visiting the medical profession of western New York, and I find it a very pleasant as well as a fairly profitable occupation. I meet and deal with many who graduated from the Albany Medical College. I shall try to be with you at the reunion this year fearing that if I wait another forty years I shall lose my interest in the class entirely."

P. I. CROMWELL, Effingham, Ill.:

"After my graduation December 22, 1870, I spent my first six months as resident physician of the Albany City Dispensary, No. 7 Plain street. After my time there I located in private practice in Cleveland, N. Y., where I remained about two years, after which I went to Chicago, Ill., and located at the corner of Cottage Grove avenue and Thirty-first street. After being there about one year I located at DeKalb, Ill., where I remained about fourteen years, thirteen of which I was DeKalb county physician and by overwork I was obliged to give up my practice there and go to Colorado. I located in Colorado in the city of Sterling, Logan County, where I remained two years, after which time I returned to Wilmington, Ill., where I remained about thirteen years, and on account of the long hard rides in that section and the approach of old age I sold my home and practice to a Dr. Midgeley and located in Effingham, Ill., where I now have a living city practice which is mostly office work. I am at present president of the Effingham County Medical Society and also president of the Physicians' and Dentists' Club of this city. I am about 62 years of age and enjoying fairly good health. I would very much like to be with you at the Alumni meeting but fear that will be impossible this year."

WILLIAM HAILES, JR., Albany, N. Y.:

"After graduating was immediately appointed Anthony professor of pathological anatomy and other departments in the college. Taught and practiced uninterruptedly for more than thirty-three years as professor and attending surgeon in various hospitals. Made a specialty of histology, pathological anatomy, embryology, fractures and dislocations and X-ray work. Before the general use of diphtheric anti-toxin was a pioneer in Albany, in the intubation of the larynx for croup, having performed the operation more than 1,600 times. Had large experience in intracranial surgery and a successful laparotomist. On account of ill health for the past three or four years have largely retired from practice."

CHARLES M. LEFLER, Gloversville, N. Y.:

"It will be impossible for me to attend the Alumni meeting this year although I had intended to be present and enjoy its social hours, and meet some of the old faces of the class of '70. I look over the years since graduation and what a change, especially in our Quiz only Drs. Tucker, Hailes and myself are remaining. After graduating Dec., 1870, I located in Gloversville, N. Y., and for nearly forty years I have been engaged in active practice. I was received kindly by the profession of our city, and during all this time I have had very pleasant relations with all the physicians of Gloversville and Johnstown. I have been president of the Fulton County Medical Society for two years, treasurer for eleven or twelve years, member of the New York State Medical Society for 18 years, member of the Gloversville and Johnstown Medical and Surgical Associations, have been coroner and county physician two or three times, health physician of the city of Gloversville in fact have served in several other positions. I have been fortunate in never having been engaged in any criminal action or unprofessional work and in a large degree have made my professional career a financial success. I am in good and regular standing in the profession up to date."

C. H. CHAMBERLAIN, Hartford, Conn., died about 1880.

RICHARD H. CAMERON, Johnstown, N. Y., died 1890.

WM. N. CURTIS, Albany, N. Y., died 1889.

JACOB C. DE FREEST, died 1874.

EGBERT W. DUTCHER, Prescott, Arizona, died 1898.

KILLIAN V. LANSING, died 1879.

ROBERT H. NEEFUS, Dalton, Mass., died March, 1910.

ALEXANDER B. WILLIS, Schenectady, N. Y., died 1891.

ROBERT H. WILSON, Chicago, Ill., died 1896.

FRANK E. JOHNSON, whereabouts unknown.

LEVI LEROY KING, whereabouts unknown.

WM. H. KIMMER, Dubuque, Iowa, retired.

DEWITT M. LA MOREE, Los Angeles, Cal., no reply.

THOMAS H. MANN, Fitchburg, Mass., no reply.

FRANK McRAE, Melrose, Fla., no reply.

LUTHER J. PURDY, whereabouts unknown.

BYRON USHER STEENBERG, Albany, N. Y.:

"After graduating spent a year in Dr. Haskins' office and at the end of that time opened an office at 28 Clinton avenue and have practiced medicine in the immediate vicinity from that time to this. For about a year and a half previous to graduation was resident physician at the Alms House—was demonstrator of anatomy in Albany Medical College for two years—honored by the county society as secretary, vice-president and president—also chosen a delegate to the State Society at the end of which time was made a permanent member. I am still in the harness and hope so to remain until the last call."

WILLIS G. TUCKER, Albany, N. Y.:

"Graduated from Albany Medical College with degree of M. D., 1870. Was assistant in chemistry, A. M. C., 1871-74 and subsequently adjunct-professor of *materia medica* and chemistry, and professor of inorganic and analytical chemistry and toxicology, and is, at present, professor of chemistry and toxicology. Was professor chemistry Albany High School 1876-87. Was one of the founders of the Albany College of Pharmacy in 1881; professor of chemistry from its organization to date; trustee of the college; and dean of its faculty from 1883 to date. Aided in the organization of the Alumni Association A. M. C and was one of incorporators of same in 1874 and secretary from 1874 to 1885 and recording secretary from 1885 to 1896. President of same in 1898. As secretary or registrar of the A. M. C., has been a member of its executive committee from the outset. Since 1882 has been registrar of the A. M. C. having served longer than any other in same office and has probably served as a teacher in the college for a longer *continuous period* than any other teacher who has been connected with the school. Was appointed one of the analysts of the State Board of Health in 1881 and for over 25 years was either analyst to, or director of, the laboratory of the board. Served as member of board of medical examiners of the University State of New York, from 1882 to 1891. Member of board of governors of Union University since 1884. Served as member editorial staff ALBANY MEDICAL ANNALS 1883-87 and as member of committee on publication of same to date. Received honorary degree of Ph. D. from Union in 1882, and Ph. G. from Albany College of Pharmacy in same year. Is Fellow American Association Advancement of Science; member Medical Society State of New York, and County of Albany; Member American Chemistry Society; Fellow Chemistry Society of London; Member New York State Pharmaceutical Association; Fellow American Academy of Medicine; Member Sigma Xi. Author of various papers on chemical and educational subjects.

L. E. WELLS, 44 Myrtle Street, Boston, Mass.:

"Soon after graduating from the Albany Medical College I went west where I practiced for a while then returning east I was in Rhode Island for a time, then I went to Washington, D. C., where I was connected with the surgeon-general's office and also as a writer on medical topics for about ten years. Since then I have been a general contributor for several journals and magazines. I have only done medical work as a matter of charity for a long time."

D. C. CASE,

Historian, Class of 1870, A. M. C.

HISTORY OF THE CLASS OF 1880.

STEPHEN C. BURTON, Pittsfield, Mass.:

"After graduating I remained with my preceptor Dr. John Swinburne until December, 1883, when I married Virginia H. Pingle of Jersey City. January, 1884, moved to Syracuse, N. Y., was taken ill and returned to Albany. April 1, 1884, I came to Pittsfield, Mass. as the partner of Almon N. Allen, M. D., where I still reside. Health officer for thirteen years, physician and surgeon to the house of correction for past twenty-two years, civil service examiner for State since 1891, delegate to the World's Congress of 1893 on the nomination of Hon. John C. Crosby, M. C.; honorary delegate by invitation to the British Medical Association, 65th Annual Session, at Montreal, Canada, Aug. 31, 1897. Have two sons living, the elder a forest engineer and professor of forestry at Biltmore, the younger son at home. Have enjoyed remarkably good health and certainly have my share of the profits of life. Am one of three generations of my family that claim the same Alma Mater, four sons of A. M. C., C. V. W. Burton, 1842; M. H. Burton, 1853; S. C. Burton, 1880; Henry B., son of M. H. Burton.

E. C. COLLINS, Springfield, Mass.:

"I intend to be with the boys on the 17th. Will then recite a 'history of my life' my *sensitive nature* will not permit me to put in black and white."

D. F. DONOGHUE, 240 Maple Street, Holyoke, Mass.:

"Within a month after graduation I opened office here in Holyoke, my home city, and have practiced here for the thirty years since. My work has been the usual burden of the 'general practitioner' and I have been fairly successful. Was married in 1891 and am thankful to be able to record that the union still happily continues. Have been fortunate too, in having enjoyed good health most of the time, but am not blessed with children. For six years I served as city physician and secretary of Board of Health, and for eight years was a member of the school board. Am still chasing the elusive dollar, not for the love of the dollar, but because it is so necessary in these times of 'high prices of living.'"

CLINTON BRADFORD HERRICK, Troy, N. Y.:

"After graduating spent two years interne at Albany Hospital, then to Troy to the present time. First ten years in general practice, last twenty years in surgery. Several semesters at foreign schools, a number of years lecturer and clinical professor of railway surgery at Alma Mater, member of numerous medical societies, surgeon Troy Hospital and Good Shepherd, consulting surgeon at Leonard Hospital, surgeon N. Y. C. and Rutland railroads, president of Society of War of 1812, member of Hudson-Fulton Commission. Married and have one little daughter. Am spending my winters now at our Orange Grove in Florida to keep back the frost of Father Time."

W: B. MADISON, Hebron, N. Y.:

"Began the general practice of medicine in my home town of Hebron, Washington County, at once, succeeding my father, Dr. John H. Madison, who had practiced medicine in Hebron for fifty years. Have remained in Hebron up to the present time. My practice has been of a general nature; never made a specialty of any disease. Am a member of the Washington County Medical Society and unmarried."

GEORGE S. MUNSON, 30 Eagle Street, Albany, N. Y.:

"I am still hard at work in my chosen specialty, 'the eye and ear,' and as I shall surely be present at this our thirtieth anniversary I shall be glad to meet the boys once more and whoop it up for our dear 'Alma Mater.'"

M. L. RHEIN, 38 East 61st Street, New York:

"After leaving college, I graduated from the dental department of the University of Pennsylvania, and have been practicing stomatology as a specialty, in New York city for twenty-nine years. During this time, I have done some little research work, and written about fifty papers for medical and dental societies. I have been a lecturer in the dental department of the University of Pennsylvania, and am a member of many medical and dental societies, in which I take an active interest. I have been married for twenty-four years, and we have two daughters."

M. HERBERT SIMMONS, 225 Cleveland Street, Orange, N. J.:

"I have been located in Orange, N. J. for the past twenty years. Was a member of the Common Council in 1893, member of the Board of Education, 1891-92, 1904-07, and president of board 1904-05, city physician 1903-04, deputy county physician 1905-06, and 1909 to present time, visiting physician to St. Mary's Hospital, Orange. Was married in 1881 to Hattie C. Shibley of Rural Grove, N. Y., and have one child, Albert Vander Veer Simmons, who graduated from the University Medical College in the class of 1907."

J. SEWARD WHITE, South Glens Falls, N. Y.:

"I graduated with our class in 1880 and practiced the following year about my home on the Helderbergs up in Knox, Albany County, N. Y. I then hung out my sign in South Glens Falls, Saratoga County, N. Y., where I have since remained. I have kept steadily at work at general practice. I have a wife and one daughter who is now attending Vassar College. I am a member of the Glens Falls Medical and Surgical Society, the Saratoga County Medical, the New York State and the American Medical Associations. I am a member of the Glens Falls Hospital staff and lecturer to the Glens Falls Hospital Training School. I have been health officer since 1880. I am local examiner for most of the old line life insurance companies. Have been president and trustee of our village and president and member of the board of education for many years. Have organized a fire hose company which bears my name

and has taken all the honors conferred by the State upon such organizations. Several years ago I organized the First National Bank of this town and have had the honor of acting as its president ever since. For twenty years I have had a summer residence at Glen Lake, N. Y. (about five miles from Lake George), where I spend as much time as I can with my family. I smoke too much, drink nothing—am well and happy, and am going to retire from business when the rest of you do.”

C. F. WICKER, Saranac Lake, N. Y.:

“The ‘Greeting’ made me mad! as it called my attention to the fact that I am getting old, and I did not feel so until your card came ‘through the mail’ for all postmasters to read that it was thirty years ago that I left Albany with my diploma and a few crackers tied up in a handkerchief and made my way, on foot, by easy stages, inquiring in each town if they wanted a doctor? No one did until I reached Saranac Lake, at that time way in the woods. I was a curiosity and they took me in on probation. But as nearly all of the old settlers have died as the result of my ‘skill’ the new people think I have a right here. But I am not so bad off. I have only one dog and you know a d—n poor man has two or more. As to the account of my life and experiences I hesitate to write of them. ‘Some say’ they have been devious and dark and as it is not pleasant to write of unpleasant things, I will say no more about it.”

CLINTON BRADFORD HERRICK,
Historian, Class of 1880, A. M. C.

HISTORY OF THE CLASS OF 1890.

Mr. President and Fellow Alumni: Of the thirty-seven graduates of 1890, three have died and I have had reports from ten of remaining thirty-four which I take pleasure of presenting to you:

W. A. ALEXANDER, 308 Summit Avenue, Schenectady, N. Y.:

After graduating settled in Albany. In 1896 married Miss Mary Emma Stevens of Schenectady. Remained in Albany for two years after marriage. Moved to Schenectady in 1898 and has been in active practice ever since. Has one son twelve years of age.

ROBERT BRITAIN, Downsville, N. Y.:

“Since I left dear old mother Albany Medical College I have been very busy. The first three years I visited various points of interest in United States. In '94 came to Shavertown, Delaware County, N. Y., there one and one-half years, then moved to my present practice where I have since immortalized the citizens, helped to increase the mortality and population. Providence, profession and patrons have been very good to me. I have a hard but good practice about \$3,500 per year. Have been married fourteen years, had eight children, five living. Have good home and everything comfortable.”

EDWARD BERNARD COBURN, 16 East Forty-third Street, New York City: New York City:

1890-91, postgraduate study in New York City in diseases of eye, ear, nose and throat; 1891-92, postgraduate study in Paris, Vienna, Berlin and London on same specialties; 1892-1910, specializing on above subjects in New York City in private practice; formerly clinical assistant at Central London Throat and Ear Hospital, Royal London Ophthalmic Hospital, Vanderbilt Clinic, College of Physicians and Surgeons, N. Y., New York Polyclinic, Manhattan Eye and Ear Hospital; assistant surgeon, New York Ophthalmic and Aural Institute; now attending surgeon (Clinical) Eye Department, Cornell Medical College; surgeon and pathologist, New Amsterdam Eye and Ear Hospital; Member, New York County Medical Society; Fellow, New York Academy of Medicine; Member, Sons of the American Revolution; Member, Society of Founders and Patriots of America; Collaborator for 'La Revue Generale d'Ophthalmologie'; author of various experimental works and papers on medical topics.

M. D. DICKINSON, Troy, N. Y.:

"Has been in practice in Troy since graduation."

THOMAS H. FLYNN, 41 High Street, West Somerville, N. J.:

After graduation located at Somerville, N. J., and has remained here, is doing general practice and has been successful, has worked hard and has never allowed any other business to come between him and his professional work, member of staff of Somerset Hospital, County, State and American Medical Societies. Was married in 1892 and has a fine family of five children, two boys and three girls.

J. P. GILLIGAN, O'Neill, Neb.:

"The members of course will recollect I was quite ill the last winter of our course and quite broken in health, I knew not which way to turn, so I spent the summer of '90 as an officer on the steamer *New York* of the Hudson River Day Line. The succeeding winter I spent in New York City taking lectures at the various medical schools and clinics about the city, and it was a very profitable winter. In the summer I returned to the steamer *New York* and in the fall I followed the advice of Horace Greeley and came west to grow up with the country. I located in Nebraska and have never known rest since. My health has been good and for thirteen or fourteen years I have weighed two hundred pounds or better. My practice has been all I could do and is still that way. My friends and enemies are many, but in the profession they are all friends, and to the best of my memory I never intentionally injured a brother practitioner. Have taken several post graduate courses and traveled much for rest and recreation. Am a stockholder and director in the O'Neill National Bank. I own a $\frac{3}{4}$ interest in a good, well stocked drug store which is run by my brother-in-law and in which I take no active interest. I own a modest home and some little real

estate. In fact much. In fact I am not restless over the financial end of it. Have served a term in our State senate being the first Republican elected to that office from the district in sixteen years and by the largest majority given a candidate on either side at any other time. Have held many honorary positions in our professional societies and have a very wide acquaintance both inside and outside the profession. Have rather an extensive consultation practice. Married Maude E. Staut, a native of Nebraska, whose parentage is from the earliest settlers of southern Ohio. The dearest girl in all the world, to me. We have three children—John Philip, Jr., eleven years of age; Miriam Estella, seven years, and Master Bennett Staut, aged three years. Have belonged to boards of health, examine for a dozen insurance companies, am surgeon for C. B. & Q. R. R. Co., also C. & N. W. Ry. Co., been pension examiner for seventeen years, etc., etc. Belong to several orders, am a member in good standing in Damascus Commandery K. T. No. 20 of Norfolk, Neb., local lodge A. F. & A. M., member I. O. O. F., etc., etc. If I knew just when you were to have reunion I might run back if not too busy for it would be a real pleasure to see the dear boys again, even though we had our little disagreements. Kindly remember me to the faculty who still survive, Dr. Vander Veer, Dr. Bigelow, Dr. Hun, Dr. Hailes, Dr. Morrow, Dr. Craig, Dr. Merrill and Dr. Tucker. In fact any who remain after twenty years more of struggle. You can never know the memories that come before me on the long arduous drives, with nothing but the howl of wolves and the moaning prairie winds around me, and the cold twinkling stars above. Think of years of drives running from 0 to 40-75. Yes, and once I made 150 miles in winter with temperature -15° to -25° through the Sioux country to see a dying squaw man, but a good old government scout, who liked the native, only original, and absolutely shiftless and dirty Sioux. Yes, I often wish we could get together, for in the next ten years many will go the way we all must go."

THOMAS HELME, McKownville:

"The next day after graduating I commenced the practice of medicine at McKownville, N. Y., and have lived here these twenty years. In September, 1890, I married Miss Carlotta M. Manville. We have a happy family of three girls and two boys. I have been health officer of town of Guilderland nine years, and served one term as coroner's physician of Albany County. Am enjoying fair health and am not in need of any more work."

GEO. T. MOSTON, Albany, N. Y.:

"After graduating in 1890 I located in the west end of the city on Central avenue and am still there. My practice has increased every year. I have a wife and two boys living, one boy nearly fifteen attending high school, and one boy nearly four years old. That sums up my history in a few words. Of the future we do not know."

MINOT A. STEELE, Portsmouth, R. I.:

"Soon after receiving my sheepskin I commenced operations with an old M. D. at Hempstead, New Hampshire, where I continued for two years, I then removed to Chester, Vt., where I remained another two years, I then came to Portsmouth, R. I. where I am still 'at it,' and where I should be glad to have any of the 'boys' call on me. I have no 'kick coming' concerning my success. Have a good practice and have taken on an assistant within the last year. Have been town physician sixteen years, medical examiner (Newport Co., 2d Dist.), fourteen years, health officer twelve years. Have been chairman of public school committee five years and am a member of the Tower Council. Was master of a lodge of A. F. & A. M. two years, and high priest of a chapter of R. A. M. three years. Am a member of N. H. & R. I. State Medical Societies. Am married but have no children."

JAMES H. TOBIN, Pittsfield, Mass.:

"When I left Albany in 1891 after leaving St. Peter's Hospital where I acted as interne for a time I came here, stayed about eight years then left Pittsfield. After a while located in Schuylerville, Saratoga County, N. Y. From there I came to Pittsfield about a year ago. Am married, with a boy fourteen years old."

CHARLES DE LA MONTANYE, Port Ewen, N. Y., died 1899.

JAMES F. EARLY, Albany, N. Y., died 1896.

FRANK M. HALL, South Hartford, N. Y., died 1893.

For myself I have had successful career of one in general practice.

EDWARD V. COLBERT,
Historian of the Class of 1890.

REPORT OF THE CLASS OF 1900.

F. D. BIGAREL, Port Leyden, N. Y. Bigarel located in Port Leyden immediately after graduation and is still there doing a general practice. He is health officer of the village and for the last five years has been president of Port Leyden and a member of the board of health. He is married but has no children.

K. A. CAMPBELL, Hopedale, Mass. Campbell located in Hopedale immediately after graduation and is still there doing a general practice. He is a member of the staff of the Milford Hospital and lecturer on children's diseases in the training school. He was married in Aug., 1900, to Mary B. Safford, of Madison, Ohio. They have two children, Kleber A., Jr., age 7, and Katherine S., age 2.

GEO. P. COOPERNAIL, Bedford, N. Y. After graduation Coopernail spent one year as interne at the Albany Hospital and the next year as assistant physician at the Long Island Home. He then located at Bedford where

he still is, doing a general practice but paying particular attention to surgery. In November of last year he was appointed first lieutenant Medical Reserve Corps, U. S. A. In July, 1902, he married N. Louise Brinton of Falls Village, Ct. He has had three children, two of whom are living, Charlotte Louise, age 5, and George Brinton, age 4.

JOHN L. CROFTS, 45 West 35th Street, New York City. Crofts spent eighteen months as interne at the Samaritan Hospital in Troy. He then opened an office at his home in Little Falls, N. Y. In the spring of 1905 he moved to Brooklyn and in February of this year he located at his present address. He is devoting his entire time to electro-therapeutics.

THOMAS H. CUNNINGHAM, 19 Oak Street, Glens Falls, N. Y. Cunningham spent two years as interne at the Albany Hospital, did three months' work at the Bender Laboratory, was appointed assistant surgeon at the Soldiers and Sailors' Hospital at Bath, N. Y. In 1904 he located at Glens Falls where he is doing surgery. He is a member of the Glens Falls Medical and Surgical Society and the A. M. A. and is attending surgeon at the Glens Falls Hospital. He has done post graduate work at New York, Chicago, Baltimore and Rochester, Minn. He is still unmarried.

WILLIAM E. CURTIN, 156 Mohawk Street, Cohoes, N. Y. Curtin located in Cohoes immediately after graduation and is still there doing a general practice.

LAWRENCE K. DUGAN, 818 State Street, Schenectady, N. Y. Dugan located in Schenectady one year after graduation and has been doing a general practice there since. He is unmarried.

LUTHER EMERICK, Saugerties, N. Y. Emerick was interne at the Albany Hospital from June, 1900 to April, 1901, tried practice at Catskill, N. Y., for two months and then went back to the Albany Hospital as interne till June, 1902. He opened his office in Saugerties in Dec., 1902, and has been there since doing a general practice. In June, 1906, he married Cordelia E. Parrish, of Maryland, Otsego Co., N. Y., a graduate of the Albany Training School for Nurses. They have one daughter, age 2 years.

R. GILMORE, 1039 State Street, Schenectady, N. Y. After one year as interne at the Ellis Hospital, Schenectady, Gilmore located there and is still there doing a general practice. In Oct., 1905, he married Emma C. Studeman of Galt, Ontario, Canada. He has no children.

L. H. HUMPHREY, Silver Springs, N. Y. Humphrey located in Silver Springs immediately after graduation. He is still in general practice there. He is secretary and treasurer of the Wyoming County Medical Society since 1902. In 1904 he was appointed on the board of pension examining surgeons, also was appointed on the board of health of the village. He was elected county coroner in 1908 and trustee of the village in 1909. In June, 1901, he was married to Martha M. Barber, of Warsaw, N. Y., and has two children, a daughter of 7 years and a son of 5.

H. A. LA MOURE, Grafton, N. D. La Moure has devoted his entire time since graduation to institutional work having received the following appointments: Medical interne at the Rochester State Hospital, N. Y., third assistant physician at Craig Colony, N. Y., assistant physician at the State Custodial Asylum, Rome N. Y., first assistant physician at the Minnesota School for Feeble Minded and Colony for Epileptics, superintendent of the N. D. Institute for Feeble Minded at Grafton, N. D., which position he now holds. In April, 1904, he was married to Ina M. Salisbury, of Canandaigua, N. Y. They have no children.

GEO. LENZ, 68 Bleeker Street, Gloversville, N. Y. After commencement Lenz opened an office in Gloversville, doing a general practice. Recently he has devoted his whole time to surgery, having done post graduate work in New York and Chicago. In May, 1902, he was married to Anna B. Grant of Ingersoll, Ont., Canada. They have four children, one girl and three boys.

CHARLES G. LYON, Owego, N. Y. Lyon engaged in private practice till the spring of 1903 when he was appointed interne at the Willard State Hospital. The following year he was appointed junior assistant physician at the Binghamton State Hospital and shortly afterward assistant physician. In 1908 he became physician-in-charge and superintendent of the Glenmary Sanatorium at Owego, N. Y., where he still is. He was married in 1908 and has one daughter.

W. G. MACK, 34 Lewis Street, Auburn, N. Y. After graduation Mack spent two years as interne at St. Peter's Hospital in Albany. He then secured a position on the State Hospital for the Insane at Canandaigua, and was shortly afterward promoted to first assistant physician there. In 1908 he resigned his position and went to Europe where he spent a year in study at various medical centers. In 1909 he returned to this country and spent some time in post graduate laboratory work. He is now located in Auburn, N. Y., doing a general practice. He is still unmarried.

PETER MCPARTLON, 7 Park Place, Schenectady, N. Y. McPartlon spent several months as interne at the Ellis Hospital in Schenectady. He then opened his office in Schenectady doing a general practice. He is now devoting most of his time to work in tuberculosis. He is attending physician at the City Tuberculosis Dispensary. He was married in 1903 but has no children.

S. D. MILLER, 1527 Third Street, Rensselaer, N. Y. Miller spent three years after graduation in general practice at Schroon Lake, N. Y. For the last six years he has been doing a general practice at his present address in Rensselaer. He is also doing considerable X-ray work. His family has not increased since he entered college.

LOUIS F. O'NEILL, Auburn, N. Y. O'Neill is engaged in general practice at Auburn. He is at present doing post graduate work in Baltimore, Md.

WM. H. PETRIE, Dolgeville, N. Y. Petrie is doing a general practice at Dolgeville.

WM. H. SANFORD. Last known address 49 East 44th Street, New York City. A letter sent to that address was returned undelivered.

W. A. STEARNS, 306 Crane Street, Schenectady, N. Y. Stearns after one year as interne at St. Peter's in Albany located at his present address and began a general practice. He is married and has three children.

E. A. SWEENT, Marine Hospital Service, New York City. Sweent practiced for three years at Hoosatonic, Mass. He was then appointed assistant surgeon in the Marine Hospital Service. In 1908 he was promoted to past assistant surgeon. He has been stationed at various points in the south and west and is at present in New York.

ARTHUR A. WILL, Oklahoma City, Oklahoma. Will spent two years as interne at the Albany Hospital, three years in general practice at North Creek, N. Y., six months with Dr. W. G. Macdonald in Albany and in clinics in New York city. He located in Oklahoma City in 1907 where he is devoting his time to surgery and rectal diseases. He is instructor in minor surgery and rectal diseases at the Oklahoma State University. In 1906 he married Miss Hilda S. Littlejohn of Upper Montclair, N. J. He has no children.

H. H. LOUSSARAIAN, died 1903, in Washington, D. C.

L. D. MASSON, died 1902, in Cohoes, N. Y., of appendicitis.

REID GILMORE,

Historian, Class of 1900, A. M. C.

On motion of Dr. Tucker, the thanks of the Association were tendered the Historian, Dr. Bedell, and the Class Historians, Drs. Case, Herrick, Colbert and Gilmore.

The Nominating Committee submitted the following report by its chairman, Dr. Mitchell:

For President,

MARCUS M. LOWN ('77), Rhinebeck, N. Y.

For Vice-Presidents,

MAURICE J. LEWI ('77), New York, N. Y.

CHARLES A. INGRAHAM ('78), Cambridge, N. Y.

JOHN J. D. McALLISTER ('79), New York, N. Y.

ADAM Y. MYERS ('82), Buskirk Bridge, N. Y.

GERALD GRIFFIN ('01), Albany, N. Y.

For Recording Secretary,

J. MONTGOMERY MOSHER ('89), Albany, N. Y.

For Corresponding Secretary,

JAMES N. VANDER VEER ('03), Albany, N. Y.

For Treasurer,

ROBERT BABCOCK ('84), Albany, N. Y.

For Historian,

ARTHUR J. BEDELL ('01), Albany, N. Y.

For Members of the Executive Committee (term three years),

WILLIAM J. NELLIS ('79), Albany, N. Y.

JAMES H. MITCHELL ('81), Cohoes, N. Y.

ARTHUR J. ROOT ('90), Albany, N. Y.

JOSEPH A. COX ('01), Albany, N. Y.

On motion of Dr. Tucker, the Secretary was directed to cast one ballot for the names contained in the report. The Secretary then read these names and President Voorhees declared the members named in the report duly elected officers of the Association for their respective terms.

Dr. Tucker then called attention to the fact that owing to the death of Dr. William Geoghan who was a member of the Executive Committee, Dr. Erastus Corning ('01), was elected to fill that vacancy by the Executive Committee until the next annual meeting. He moved that the Association elect Dr. Corning at this time to fill the unexpired term of Dr. Geoghan. The motion was made and carried, Dr. Corning being elected a member of the Executive Committee.

Dr. Voorhees' attention was then called to the fact that Dr. Hacker nominated Dr. Matthew J. Keough ('05), of Cohoes, to fill the unexpired term of Dr. Griffin, who was elected Vice-President. Dr. Keough was declared elected after the usual manner.

Announcements of the program of the day, the commencement exercises and alumni dinner, having been made and no further business appearing, the Association adjourned.

COMMENCEMENT EXERCISES.

The seventy-ninth commencement exercises of the Albany Medical College were held at Odd Fellows' Hall, on Tuesday afternoon, May 17, 1910, at three o'clock, in the presence of a large audience. Samuel B. Ward, M. D., Dean of the College, presided, and upon the stage were seated the members of the

Faculty, officers of the Alumni Association and prominent citizens.

The following was the

ORDER OF EXERCISES.

DEAN SAMUEL B. WARD, M. D., PRESIDING.

<i>March</i> —Selection, "The Belle of Brittany".....	<i>Talbot</i>
<i>Prayer</i>	REV. J. V. MOLDENHAWER
<i>Music</i> —Caprice, "Sicilian Chimes".....	<i>Mills</i>
<i>Essay</i>	WILLIAM DEWEY ALLEN
<i>Music</i> —Intermezzo, "The Merry Lark".....	<i>Bendix</i>

PRESENTATION OF CANDIDATES FOR DEGREE BY DEAN WARD

CONFERRING DEGREES

BY CHARLES ALEXANDER RICHMOND, D. D.

Chancellor of the University.

<i>Music</i> —Gavotte, "Arbutus".....	<i>Davis</i>
---------------------------------------	--------------

ADDRESS TO THE GRADUATING CLASS.

REV. JAMES S. KITTELL.

<i>Music</i> —Valse Lente, "Cupid's Caress".....	<i>Roberts</i>
<i>Valedictory</i>	EUGENE FRANCIS CONNALLY

REPORT ON PRIZES AND APPOINTMENTS.

JOSEPH D. CRAIG, M. D.

<i>Music</i> —Finale, "Wild Cherries".....	<i>Snyder</i>
(HOLDING'S ORCHESTRA)	

The Graduating Class was as follows:

William David Aldrich.....	Wevertown, N. Y.
William Dewey Allen.....	Rensselaer, N. Y.
Wallace Joseph Charles Aubry, M. D.....	Montreal, P. Q.
Wardner Daniel Ayer.....	Rensselaer, N. Y.
John Frederick Beiermeister.....	Troy, N. Y.
George Bibby.....	Pottersville, N. Y.
Claude Bledsoe.....	Gloversville, N. Y.
Cornelius Joseph Buckley, A. B.....	Pittsfield, Mass.
John Bennett Burke.....	Troy, N. Y.
James Whitefield Byrne.....	Troy, N. Y.
Frank Gibson Calder.....	Freehold, N. Y.
Eugene Francis Connally.....	Troy, N. Y.
Arthur George Cooke.....	Johnstown, N. Y.

John Richard Devine.....	Troy, N. Y.
George Watson Dufty.....	Troy, N. Y.
John Arthur Farrell, Jr.....	Rensselaer, N. Y.
Richard Berchmans Gray.....	Rensselaer, N. Y.
Henry Martin Grogan.....	Warrensburg, N. Y.
Philip Conrad Hacker.....	Albany, N. Y.
Elwin Wallace Hannock.....	Albany, N. Y.
James Charles Hassall.....	Troy, N. Y.
Patrick Joseph Hirst.....	Mechanicville, N. Y.
William Knowlton Johnson.....	Schodack Landing, N. Y.
Walter Scott Lilienthal.....	Albany, N. Y.
Walter Edward Lundblad.....	Schenectady, N. Y.
Harold MacDonald.....	Watervliet, N. Y.
Edward Bartholomew Manion.....	Herkimer, N. Y.
Roy Jay Marshall.....	Gouverneur, N. Y.
John James McCall.....	Albany, N. Y.
John James McShane.....	Springfield Center, N. Y.
Howard Casper Murray.....	Herkimer, N. Y.
Charles Frederick Myers.....	Saratoga Springs, N. Y.
George Bradford Randall.....	Albany, N. Y.
Willard Tipple Rivenburgh.....	Ghent, N. Y.
Leander George Rymph.....	Ulster Park, N. Y.
Saul Joseph Selkin.....	Albany, N. Y.
John Forrest Southwell.....	Keene, N. H.
John Albert Sullivan.....	Pittsfield, Mass.
Harold Augustus Traynor.....	Brushton, N. Y.
Harry Franklin Van Loon.....	Albany, N. Y.
John Edmund White.....	Philmont, N. Y.

Dr. Craig presented the prizes. He read a report on the Vander Poel prize, endowed by Mrs. Gertrude W. Vander Poel, in memory of her husband, the late S. Oakley Vander Poel, for many years a professor in the college, stating that the prize, consisting of a clinical microscope and accessories, offered to the senior student passing the best bedside examination in general medicine, has been awarded to Dr. George Watson Dufty, with honorable mention of Dr. Walter Scott Lilienthal.

The prize offered by Drs. Vander Veer and Macdonald for the best report of the surgical clinics was awarded to Dr. Wardner Daniel Ayer. For the second best report of these clinics, the prize offered by Drs. Morrow and Traver was awarded to Dr. John Frederick Beiermeister.

The prize, consisting of an ophthalmoscope, offered by Dr. Merrill for the best final examination in ophthalmology, was awarded to Dr. James Charles Hassall.

The Townsend Physiological prize endowed by the late Professor Franklin Townsend, Jr., M. D., was awarded to Mr. William J. Jones for passing the best examination in physiology at the end of the first year of study.

Dr. Boyd's prize to the student passing the best final examination in obstetrics was awarded to Dr. William Dewey Allen.

The prize, consisting of a case of surgical instruments, offered to the senior student passing the best final examination, by Dr. W. J. Nellis ('79), in memory of his brother the late Dr. T. W. Nellis ('81), was awarded to Dr. Walter Scott Lilienthal, with honorable mention of Dr. William Dewey Allen.

The Daggett prizes, consisting of sixty and thirty dollars, respectively, for the best "anatomical specimens," were awarded to Frank Mathias Neuendorf.

The Daggett first prize for the best "deportment irrespective of scholarship," consisting of sixty dollars, was awarded to Dr. George Bibby, and the second prize, consisting of thirty dollars, was awarded to Dr. George Watson Dufty.

Appointed Essayist for 1911, Percy Henry Finch; Alternate, Antonio Martinez Alvarez.

A prize, consisting of a Thoma hemacytometer, offered by Dr. A. J. Bedell, for the best report of the eye and ear clinics, was awarded to Dr. Charles Frederick Myers.

The following hospital and laboratory appointments were announced:

Albany Hospital: Drs. Walter Scott Lilienthal, William Dewey Allen, George Watson Dufty, George Bibby, Frank Gibson Calder, Harold MacDonald, John Arthur Farrell, Jr., William David Aldrich, John Edmund White.

St. Peter's Hospital: Drs. John Forrest Southwell, Wardner Daniel Ayer, Richard Berchmans Gray, Claude Bledsoe.

Homeopathic Hospital: Drs. Harry Franklin Van Loon, George Bradford Randall, William Knowlton Johnson.

Samaritan Hospital, Troy: Drs. John Richard Devine, Eugene Francis Connally, William Tipple Rivenburgh.

Troy Hospital: Drs. John James McShane, John Bennett Burke, James Whitefield Byrne, Henry Martin Grogan.

Ellis Hospital, Schenectady: Dr. Howard Casper Murray.

Cohoes Hospital: Dr. Roy Jay Marshall.

Hospital for Ruptured and Crippled, New York: Dr. Elwin Wallace Hannock.

Physicians' Hospital, Schenectady: Dr. Philip Conrad Hacker.

Rochester City Hospital: Dr. John Frederick Beiermeister.

Manhattan State Hospital, New York: Dr. Leander George Rymph.

THE ALUMNI DINNER.

The thirty-seventh annual dinner of the Alumni Association was held at the "Ten Eyck," on Tuesday evening, May 17, 1910, at nine o'clock. About one hundred and twenty were present, including members of the Association, the guests, and members of the graduating class.

Dean Samuel B. Ward acted as toastmaster and addresses were given by Chancellor Raymond, Hon. Martin H. Glynn, Rev. James S. Kittell and Dr. James H. Mitchell.

Editorial

LAFITAN presents an interesting essay on Indian medicine. It seems that there were two classes of practitioners, healing the one by art, and the other by science. The first class treated ailments by physical means, lotions, decoctions, steam-baths, etc. Many of their remedies were surprisingly efficacious, others operated rather by violence than by any special adaptation to the end. The herbs which they used were improved by being gathered at certain times and seasons, etc., and the general method of treating diseases was not unlike that of remote countries anywhere. Their surgery was clumsy, being performed only with flint instruments, and to the surprise of the French they used bleeding only for local congestions, not as the panacea it was in Europe. They could set broken bones, and in the cure of wounds were wonderfully successful. Lafitan describes the treatment, which consisted simply in keeping the wound clean and sheltering it from the air. The effects of this therapy seemed marvellous to Europeans.

LEWIS H. MORGAN.

League of the Ho-Dé-No-San-Nee, or Iroquois.



**The Serum
Treatment of
Haemophilia**

In a recent issue of the *Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, Baum discusses the value of the serum treatment of haemophilia, based upon experimental and clinical observations. Sahli was the first who accurately described the pathogenesis of haemophilia and demonstrated that disturbances of coagulation were mainly responsible for the

frequency and extent of the hemorrhages. Coagulation of the blood depends mainly upon three processes: formation of the pro ferment; transformation of the pro ferment into ferment by means of the calcium salts, and the action of the fibrin ferment upon the fibrinogen. It has been clearly demonstrated that disturbances of the ferment formation are mainly responsible for the hemorrhages of haemophilia. In earlier times attempts have been made to stop such hemorrhages by the application of materials supposed to contain ferment, to the bleeding part.

Baum performed a number of experiments upon rabbits, in which animals he was able, by the injection of hirudin, to produce a condition resembling haemophilia. He was able to demonstrate that the addition of serum to the blood of animals thus treated, increased the rapidity of coagulation outside of the body. Experiments in the application of serum locally in animals so treated in order to prevent hemorrhages from wounds, were without result. He distinguished two forms of haemophilia; one is an inherited constitutional anomaly, which usually affects the male sex, and the other is the sporadic or accidental form. The prognosis of the first form is more favorable than that of the second. Furthermore, in the sporadic variety, the blood is decidedly fluid and usually coagulates within an hour; whereas, in the inherited form, the blood is thicker and oftentimes does not coagulate in several hours.

Weil suggests the use of fresh serum for the treatment of such hemorrhages. He administered it in doses of fifteen cubic centimetres intravenously or thirty cubic centimetres subcutaneously. Human, horse and rabbit serum all seem to have the same effect. Cattle serum caused chills and vomiting and is to be avoided. Furthermore the serum should not be more than one or two months old. Weil reported a number of cases favorably affected by this treatment and his observations have been confirmed by numerous French writers. Broca concluded that the serum treatment of haemophilia, while not universally successful is nevertheless of great practical benefit.

Baum reports three cases of haemophilia treated by this serum method, the general results of which were not so satisfactory as those reported by some other observers. In all three cases, the serum caused rapid coagulation of blood withdrawn from the body but in only one case was a very positive clinical result observed

after its use. In spite of this result Baum believes that the method is of practical value and advises that it be tried in all cases of severe hemorrhages from this cause. It is the sporadic case which is of the greatest importance, because the existence of the condition is usually not recognized prior to the operation, while in the hereditary form, it is at any rate suspected. Furthermore the sporadic cases seem to respond to the treatment very much more satisfactorily than do the hereditary.

Baum feels that no operation upon an individual with haemophilia is justifiable except under the most pressing indications.

Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF HEALTH, ALBANY, N. Y.

ABSTRACTS OF VITAL STATISTICS, MAY, 1910.

Deaths.

Consumption	25
Typhoid fever	2
Scarlet fever	2
Measles	3
Whooping-cough	1
Diphtheria and croup	2
Grippe	3
Diarrheal diseases	4
Pneumonia	7
Broncho-pneumonia	6
Bright's disease	12
Apoplexy	10
Cancer	16
Accidents and violence	8
Deaths over 70 years	26
Deaths under 1 year	15
<hr/>	
Total deaths	171
Death rate	20.12
Death rate less non-residents	17.30

Deaths in Institutions.

	Resident	Non-Resident
Albany Hospital	14	11
Child's Hospital	3	2
County House	1	4
Homeopathic Hospital	2	0
Little Sisters of the Poor.....	3	0
Penitentiary	1	1
Public places	3	0
St. Margaret's House.....	1	2
St. Peter's Hospital.....	1	4
Austin Maternity Hospital.....	1	0
Albany Hospital, Tuberculosis Pavilion.....	2	0
Total	32	24
Births		117
Still births		5

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

In the Bureau of Plumbing, Drainage and Ventilation there were two hundred eighty-nine inspections made of which one hundred seventy-seven were of old houses and one hundred twelve of new houses. There were ninety-one iron drains laid, fifty-six connections to street sewers, fifty-seven tile drains, two urinals, seventy-five cesspools, two hundred three wash basins, one hundred forty-five sinks, two hundred ninety-two bath tubs, one hundred eleven washtrays, two trap hoppers, two hundred sixty-eight tank closets and eight slop hoppers. There were one hundred sixty-nine permits issued of which one hundred sixteen were for plumbing and fifty-three for building purposes. There were seventy-four plans submitted of which twenty-two were for old buildings and fifty-two for new buildings. Fifty-one houses were tested, seven with blue or red and two with peppermint and there were forty-two water tests. Forty-seven houses were examined on complaint and seventy-six were re-examined. Twenty-eight complaints were found to be valid and nineteen without cause.

BUREAU OF CONTAGIOUS DISEASE.

Cases Reported.

Typhoid fever	3
Scarlet fever	19
Diphtheria and croup.....	17
Chickenpox	1
Measles	72
Whooping-cough	0
Consumption	30
Total	142

Contagious Disease in Relation to Public Schools

	<i>Reported</i>		<i>Deaths</i>	
	D.	S. F.	D.	S. F.
Public School No. 4.....	..	I	..	..
Public School No. 6.....	I	..	..	..
Public School No. 7.....	I	..	..	..
Public School No. 11.....	I	I	..	..
Public School No. 17.....	I	..	..	..
Public School No. 22.....	..	2	..	I
Public School No. 24.....	..	I	..	..
St. John's Academy.....	I	I	..	..
Our Lady of Angels School.....	I	I	..	..
Number of days quarantine for diphtheria:				
Longest..... 33		Shortest..... 9	Average.....	16 5/7
Number of days quarantine for scarlet fever:				
Longest..... 42		Shortest..... 10	Average.....	23 6/9
Fumigations:				
Houses..... 40		Rooms.....		173
Cases of diphtheria reported.....				17
Cases of diphtheria in which antitoxin was used.....				15
Cases of diphtheria in which antitoxin was not used.....				2
Deaths after use of antitoxin.....				3
BENDER LABORATORY REPORT ON TUBERCULOSIS				
Positive				40
Negative				30
Failed				I
Total				71
TUBERCULOSIS				
Living cases on record May, 1910.....				474
Reported during May, 1910:				
By telephone		0		
By Bender		0		
By card		18		
			18	
Dead cases reported by certificate.....			11	
				29
				503
Dead cases previously reported.....			15	
Dead cases not previously reported.....			11	
Duplicates			10	
Recovered			I	
Removed			4	
Unaccounted for			18	
				59
Living cases on record June 1, 1910.....				444
Total tuberculosis death certificates filed May, 1910.....				26

BUREAU OF PATHOLOGY.

Bender Laboratory Report on Diphtheria

Initial positive	17
Initial negative	50
Release positive	18
Release negative	78
Failed	26

Total 189

Test of Sputum for tuberculosis:

Initial positive	39
Initial negative	28

MISCELLANEOUS

Mercantile certificates issued to children.....	29
Factory certificates issued to children.....	16
Children's birth records on file.....	45
Number of complaints of nuisances.....	68
Privy vaults	6
Plumbing	18
Other miscellaneous complaints.....	44
Total number of dead animals removed.....	759
Cases assigned to health physicians.....	75
Number of calls made.....	190

Society Proceedings

A regular meeting of the Medical Society of the County of Albany was held at the Parish House of St. Peter's Church, November 10, 1909. The meeting was called to order at 8.25 p. m., Dr MACFARLANE presiding. The following members were present: Drs. Abbott, J. L. Archambault, L. Archambault, Archibold, Barker, Bartlett, A. J. Bedell, Beilby, J. L. Bendell, Blair, Blatner, Branan, Carroll, Classen, Conway, Corning, Cronin, Curtis, DeVoe, Doescher, Douglas, George, Griffin, Gutmann, Happel, Harrig, Holding, Jenkins, Keens, Lanahan, Lawrence, Le Brun, Lempe, Leavey, Lomax, MacFarlane, MacHarg, McKenna, C. H. Moore, Murray, Morrow, C. L. Myers, Page, Papen, Sr., Papen, Jr., Reynolds, Rooney, H. Rulison, L. B. Rulison, Ryan, Sharkey, Shaw, Sheldon, Skillicorn, Trego, Ullman, Van Slyke, J. N. Vander Veer, Ward, Wiltse. There were also present many physicians from Albany and vicinity.

The minutes of the last meeting were approved.

Dr. CRAIG of Committee on Public Health reported that the Health authorities were prepared to supply physicians with outfits for the prevention of Ophthalmia Neonatorum, exhibiting packages. Report was accepted.

Dr. MURRAY, for the Board of Censors, reported favorably on the applications of Drs. Battin and Bibby. Report was accepted.

Dr. MURRAY moved that Dr. John A. Battin and Dr. Fred N. Bibby be elected to membership. Dr. Craig moved that the Secretary be directed to cast one ballot for each applicant named. Motion was carried, the Secretary cast the ballots and Drs. Battin and Bibby were declared elected to membership. The following letter was read and ordered placed on file:

SEPT. 10, 1909.

Dr. J. A. LANAHAN, *Secretary, Medical Society of the County of Albany,*
99 Eagle Street, Albany, N. Y.:

My Dear DOCTOR.—It must be apparent to you that the unification of the medical organizations of our state has added enormously to the efficiency of professional efforts.

The advantages that come to the individual member are increased in ratio with the strength of the unified profession. To reap the fruition of united action it is necessary that we include in our number every respectable practitioner in the State.

We should make every man feel that in the State Society he possesses the means of helping his own growth, of contributing his share to the upbuilding of the profession, of repaying in some measure a debt owing for the truth that has descended from the fathers, and for more successfully adding to the welfare of the community.

We need to make the voice of the profession more commanding. We need to enlarge the spirit of co-operation, to bring sections into contact, to avoid unfair competition and to appreciate more fully the importance of "Team-play."

For these and many other reasons, I earnestly entreat you to take immediate steps to enroll in your membership every available physician in your county.

I would suggest the appointment of a committee (with representation in each town) to secure applications for membership and to report to your county society at a special meeting, to be called in the near future, for the purpose of acting on this matter.

You doubtless are aware that the Council of the State Society has offered to new members, affiliating before January 1, 1910, protection against malpractice and other advantages (the Journal and Directory excluded) with dues to begin not until January 1, 1910.

A prompt reply to this communication is requested, directed to the Secretary, Dr. Wisner R. Townsend.

Yours very cordially,

CHAS. G. STOCKTON,

President.

The Secretary reported that letters had been sent to all the physicians in the county inviting them to join the Society, that at the last meeting nine members had been elected, at this two were elected and there were four applications to be considered.

SCIENTIFIC PROGRAM.

"The Application of Electricity in Medicine,"

Arranged by DR. ARTHUR HOLDING

Electrical Treatments, DR. H. M. IMBODEN, Clifton Springs, N. Y.
*The Roentgen Rays in Diagnosis.**Radiotherapy,* DR. LEWIS GREGORY COLE, New York City
DR. H. W. VAN ALLEN, Springfield, Mass.

The papers were discussed by Dr. S. B. Ward, Dr. C. A. MacMullen, Schenectady; Drs. E. A. Bartlett, W. H. Happel, A. F. Holding, Albany.

Dr. WARD, speaking as an internist, told of the advances that had been made in exact diagnosis since the advent of the X-ray, and of the great advances in Electrotherapeutics, citing cases from his own observation. He spoke of the pleasure the meeting had been for him, and of the profit, that, without a doubt, he believed every member had derived from it, and he moved that at the end of the discussion a rising vote of thanks be given to the visiting speakers.

Dr. MACMULLEN said:

Early diagnosis is the watch word of 1909, whether for a nodule in the mammary gland, a small calculus in the kidney or ureter, a patient for stomach diagnosis, or one of traumatism near a joint.

In the first case or primary carcinoma it is important to do a radical operation early, then give the patient the benefit of post-operative radiations immediately. Don't wait, expectant treatment, with the possibility of a recurrence is poor judgment, I believe the surgeon would find fewer recurrences, with a consequent reduction in mortality from this dread disease.

Impress upon the general practitioner the value of seeing his cases early, and he will do his share toward educating the public.

Have your suspected kidney cases skiagraphed promptly, a small stone when present in the pelvis or ureter, may be demonstrated on the plate, especially if the apparatus is in the hands of an expert.

Expectant treatment is called the method of waiting for urgent indications and finds its justification in the fact that deaths are not frequent compared to disease. According to Jacobi, "it is no treatment, a sin of omission, verily, it is malpractice, and frequently rises to the dignity of a crime." Give the patient the benefit of the modern methods of diagnosis. A case in point had been under treatment for about two years, the natural assumption is that urinary analysis has been made. The patient finally came to the hospital, a consultation took place, and he was referred to the X-ray department for diagnosis, the plate showing three large calculi in the pelvis of right kidney. The man died two days later, a victim of expectant treatment, when early diagnosis might have saved a life, the autopsy confirming the X-ray findings, showing three calculi and renal abscess.

2. Another case was that of a young woman who came under the observations of one of our leading surgeons, with symptoms of a possible calculus. She was immediately referred to the X-ray specialist, who confirmed the

clinical diagnosis. On operation it was found necessary to remove the kidney. A little over one year later she commenced to have trouble of a similar nature, again was skiagraphed and a stone found in the pelvis of the other kidney. This was promptly removed and the patient is getting along with one kidney, from which a calculus has been removed. There is not a particle of doubt that early diagnosis and prompt operation saved a life. The mistake if any was in not skiagraphing the whole urinary system the first time, a practice which is now done.

3. A stomach case was referred to me with a tentative diagnosis of hour glass contraction, which showed very prettily on the plate, confirming the clinical diagnosis. This patient was operated upon, a gastro-enterostomy, which made the diagnosis still more binding.

4. In severe contusions, especially near joints, don't wait four or five weeks with resultant deformity or non-union, but have a skiagraph taken at once. I had a case of Colles fracture referred some time since, unsuspected at the time of injury. This happens rarely now, the men are quick to see the advantages of this method, it sort of gives one a sense of security as some one expressed it.

From a series of 800 skiagrams I have drawn these conclusions:

1. The perfect reduction of fractures of long bones is difficult and often impossible without recourse to the open method.

2. Without the X-ray we are always in the dark as to the actual conditions present.

3. Reduction with mathematical precision is not absolutely essential for a good functional result.

4. Skiagrams are of value to surgeons and patient for the help they afford in permitting the surgeon to know the exact condition of the bones, dangerous to the surgeon, only, if the patient see the plate or print. To inspect the negative in some cases of fracture of tibia and fibula with displacement, the patient would think they could never walk again.

In February, 1899, Dr. White, chairman of the Medico Legal Committee of the American Surgical Association sent circular letters to each member asking replies to each of the following questions: Have you found Skiagraphy reliable in diagnosis of following:

1. Fractures attended with much swelling where palpation is impossible.

2. Fractures near joints.

3. Fractures of the neck or femur.

4. Fractures ununited.

5. Epiphyseal separation.

6. Fracture of vertebrae.

7. Do you know of cases in which the testimony of the skiagraph in cases of supposed foreign bodies in tissues, or tumors, gall stones, or kidney stones, has led to ineffective or mistaken operations?

The conclusions arrived at from replies are: Routine employment of X-ray in cases of fractures is not at present of sufficient definite advantage to justify the teaching that it should be used in every case. If the surgeon is in doubt as to his diagnosis he should make use of this as of every other means at his command, but even then he should bear in mind the grave possibilities of misinterpretation. There is evidence that

in competent hands, plates may be made, that will fail to reveal the presence of existing fractures, or will appear to show a fracture that does not exist. Kindly bear in mind these conclusions were formed in 1899. It is now ten years later.

It is doubtful if one surgeon in 1,000 would endorse the conclusions of 1899. More exact methods of study, interpretation of negatives, greater refinement in the necessary technique, have made X-ray examinations and applications invaluable aids in medicine and surgery. The very men who in 1899 ascribed doubtful value to the rays are to-day its staunchest supporters. Indeed the judge and jury will frown upon a practitioner for negligence who has failed to avail himself of this most precise and scientific method in any case of doubtful diagnosis, where through its agency practical results might have been procured.

A word on Electro-therapy. In the therapeutical use of the X-ray and Dermatology, many interesting cases present themselves, some who have been right down the line of honest and dishonest endeavor, till they finally fall into the hands of the specialist, a court of last resort. Take a case of Lupus for example. Perhaps no type of dermatological lesion is more distressing to look upon; on the other hand no type of human transformation is more gratifying following the specific use of the ray. "Neither the magic wand of progress, or the *brave* kiss of the daughter of Hippocrates ever effected such a change as that which we are now enabled to make in these unfortunate victims, doomed heretofore to live in hopeless ostracism from society."

In the case to which I refer, many fantastic diagnoses had been vouchsafed, everything from Eczema to Leprosy. The patient had been cauterized, curetted, given specific treatment, the dishonest pseudo practitioner, with the cloak of medical learning had used cancer paste, skin grafting had been tried, until the patient was utterly worn out in mind and pocket-book. It is a fact, strange as it may seem, that many cases in Dermatology, who finally fall to us as a sort of inheritance, never have even the price of car fare left, a skiagraph of the change purse fails to reveal the presence of even a sou-markee.

This woman had sixty X-ray treatments with complete recovery and has remained so for eighteen months with no sign of a recurrence.

In closing I would say that the X-ray worker demands but a reasonable consideration of his work, it is but one factor in clarifying the diagnostic atmosphere. We offer nothing without proofs, the plate is a permanent record of achievements, our claims are strongly tinged with conservatism, the age of the over zealous, and that of over exploitation has long since past.

Dr. BARTLETT said:

I am sure the members of the Society are very grateful to these gentlemen who have favored us this evening with their valuable papers and I most cordially second the motion just offered by Dr. Ward.

It is evident, from what has been said here to-night, that much doubt exists in the mind of the general practitioner as to the value of electro-therapy and consequent hesitation on his part to refer patients to the

electro-therapist is a result. This condition, no doubt, arises in part from the fact that, until quite recently, the means for exact measurement of the modalities employed have not been uniform and results have materially differed thus giving rise to confusion. The situation is different now. It is true the instruments and methods for applying electricity have so changed in the last fifteen years as to make it quite impossible for one not conversant with electro-physics and electro-physiology to use the agent with success or even safety. But it is even more true that the surgeon and general practitioner can now feel assured that, when he refers a patient to the electro-therapist, exact methods will be employed in accordance with well determined rules. The high potential current furnished by the high speed static machine differs materially from the current furnished by the Holtz type but it is accurately measured and exact results obtained; the current furnished by the large high tension coil is entirely different from that furnished by the faradic battery but it is accurately measured and exact results obtained. In other words, electro-therapy is not empiricism. Exact, scientific work furnishing definite results invites, and should receive, the fervent support of the profession.

Dr. HAPPEL said:

It is a far cry from the electro-therapeutics of our student days to the papers of this meeting of to-night. As I listened to the first paper there recurred to me an amusing story told us by the professor of surgery. At one of the surgical congresses held some twenty years ago there was read a paper on the galvanic treatment of some surgical condition. The author of the paper discoursed at great length and very learnedly on his subject. Apparently, however, he had not made his use of the poles very clear. So our professor, athirst for knowledge, thought he would ask for light and guidance. "Doctor," said he, "Where do you place the positive and where the negative pole in this case?" "Oh," answered his colleague, "That does not matter in the least."

Electricity is, of course, no more a panacea than is any single drug, but in the cases in which it is indicated it is immeasurably superior in prognosis and results to any drug treatment. Any one who has used this modality correctly and intelligently will bear me out in this statement. It is a matter of regret that electricity and the other physical modalities, so long in the hands of charlatans because of some of their spectacular features, should have been so long in coming into their rights.

With regard to the second paper, I can only most heartily indorse the views expressed by Dr. Cole. We are not picture makers. The skiagraph is only the means by which we make our diagnosis, and we should no more be classed as mere photographers than should the surgeon who makes a splint for a patient be called a carpenter.

The roentgenologist, which by the way is his proper appellation, is a specialist but one whose special knowledge covers pretty well the whole field of medicine.

This knowledge he applies to the reading of his plate. It is therefore very necessary that he should be fully informed about the case history and the symptomatology of the case that he is asked to ray. Besides this

he should be allowed a free hand as to the extent and scope of his examination if he is to be charged with the responsibility of a diagnosis. I can not end my part of the discussion without referring briefly to another matter which is often the cause of unjust criticism directed against the roentgenologist. What is a good picture? A good picture is one that the roentgenologist can read. It is not necessarily one of which you would say, "Ah, that is something like, that's a fine picture." The proper exposure and the reading of a plate is a science in itself. The roentgenologist has spent years in acquiring the necessary ability. Under certain circumstances a beautifully "clear" picture is the surest sign of incompetence.

Dr. HOLDING in closing thanked the members for the interest they had shown in the subject. He believed the one great lesson the general practitioner should learn was that electricity is of great benefit as a means of diagnosis and of therapeusis and in both cases should be used early.

Rising vote of thanks was given the visiting speakers, and the Society then adjourned at 10.30 p. m.

ANDREW MACFARLANE,
President.

JOSEPH A. LANAHAN,
Secretary.

A regular meeting of the Medical Society of the County of Albany was held November 24, 1909, at the Albany Medical College. The meeting was called to order at 8.30 p. m., Dr. MACFARLANE presiding. Minutes of previous meeting were adopted. No committees reported. In absence of the Board of Censors the election of members was deferred until the next meeting.

The following resolutions were presented by the Secretary:

WHEREAS Chapter 2, Section 1, of the General By-Laws, makes ineligible for membership physicians whose affiliation is desirable by the Society.

Resolved, That Section 2 be amended to read:

"Directors and Assistant Directors of regularly instituted Laboratories, Medical Superintendents of Hospitals, Medical Officers of State Institutions, and Medical Officers of the United States Army, Navy and Public Health Service are eligible to membership."

Resolved, That our Delegates be directed to use their best endeavors to have this amendment adopted by the House of Delegates.

Resolved, That the Secretary be directed to communicate with the other County Societies, asking that similar action be taken.

The Secretary said in presenting the resolutions that until the adoption of the new By-Laws in 1906 physicians connected with the Bender and State laboratories had always been welcome to membership. Drs. Blumer and Pease had held office in the Society while Directors of laboratories. Under the present law such men would be excluded from membership, and the resolutions were intended to permit their membership.

The resolutions were adopted.

Dr. SHAW, of the Milk Inspection Committee, presented the following resolution:

That the Medical Society of the County of Albany requests the Department of Agriculture of the State to investigate the milk supply of this county.

Dr. SHAW stated that investigations in other parts of the State had shown the milk supply to be dangerous to health, and that the Committee had reasons to suspect the supply for Albany. He believed the Commissioner needed only the request of the Society to institute an inquiry. Resolution adopted, and the Secretary was directed to communicate with the Commissioner of Agriculture.

Letter received by the President from Prof. Cohnheim was read, and the President announced that the next meeting would take place December 1 at the Historical Society at 8.30, and the University Club would give a reception at 10 p. m.

Dr. A. VANDER VEER moved that the Secretary be directed to send 500 invitations to the physicians in the vicinity. Carried.

SCIENTIFIC PROGRAM.

"Obstetric Complications,"	Arranged by DR. J. L. ARCHAMBAULT
Ante- and Post-Partum Hemorrhages,	DR. H. JUDSON LIPES
Puerperal Insanity,	DR. J. M. MOSHER
Treatment of Puerperal Eclampsia. A contribution to the use of Veratrum Viride,	DR. J. L. ARCHAMBAULT

Papers were discussed by Drs. Boyd, A. Vander Veer, L. Archambault.

Dr. BOYD said:

On account of its rarity and owing to the fact that it is frequently concealed, accidental hemorrhage is overlooked too often by the general practitioner. The extremely grave prognosis for mother and child in accidental hemorrhage, places a heavy responsibility upon the physician. Keen diagnosis and prompt treatment will be required, I do not agree with Dr. Lipes that ergot may be omitted after the use of ether or chloroform. I use it by mouth or hypodermically, especially in cases of forceps or version, when the patient has been on the operating table for any length of time. It is important always to be on the watch for post-partum hemorrhage, and to have ready everything necessary for prompt control of hemorrhage.

Illegitimacy, auto intoxication, sepsis, hemorrhage and eclampsia are the main causes of puerperal insanity. Melancholia on account of its very gradual and insidious approach is by far the most dangerous form of insanity met with by the obstetrician. In days of old my father astonished the physicians and surgeons of the Albany Hospital by his bold employment of the lancet and veratrum viride in eclampsia. His excellent results justified the heroic practice. I do not use the lancet and rarely if ever veratrum viride. Safer methods, chloroform, chloral hydrate, active catharsis, hot packs or hot air to produce sweating, plenty of water internally, nitro glycerine, gradual dilatation of cervix uteri and empty uterus without haste or shock.

Dr. ARCHAMBAULT said:

I feel that Dr. Mosher is to be congratulated upon his able and comprehensive exposé of the unnecessarily complicated question of puerperal insanity. To maintain that puerperal insanity is no definite clinical entity constitutes a significant departure from the classic conception of this disorder. In this connection, I would like to compare puerperal insanity to traumatic neurosis. There is no such thing as traumatic neurosis. The nervous manifestations of a functional character which follow accidents partake of the clinical features of hysteria or neurasthenia or of both and differ in no wise from the hysterical or neurasthenic states arising from other causes.

To use the words of Gilbert Ballet *Il n'y a pas une folie puerpérale mais des folies puerpérales*. According to this well-known authority, all cases of puerperal insanity may be divided into three groups. To the first group belong patients who are predisposed to mental disease and in whom pregnancy simply acts as any other exciting cause would in the genesis of the mental disorder. They are apt to exhibit various forms of obsessions and impulsions, or attacks of mania or melancholia. In a second group of cases, the condition is supposed to be due to auto intoxication resulting from the disordered physiology of the liver and the other internal organs. This cause which is so potent in the production of eclamptic seizures may likewise induce maniacal outbreaks or other severe forms of mental derangement. The third group includes those cases in which the psychic disorders are probably under the immediate dependency of infectious processes. Different forms of delirium are especially frequent in this class and closely resemble septicaemic delirium.

In closing, I want to recall that in a fair number of instances, pregnancy has exerted a most favorable influence upon pre-existing mental disorders, so that even severe types of psychosis have either greatly improved or completely disappeared.

Meeting adjourned at 10 p. m.

JOSEPH A. LANAHAN,
Secretary.

ANDREW MACFARLANE,
President.

On the evening of December 4, 1909, under the auspices of the Medical Society of the County of Albany, Professor Otto Cohnheim, Professor of Physiology, University of Heilderberg, Germany, delivered at the Albany Historical and Art Society, a lecture on the Experimental Pathology of the Stomach. President MacFarlane introduced the speaker and at the close of the lecture, Dr. S. B. Ward, Dean of the Albany Medical College, in the name of the Society and the medical fraternity of Albany, expressed thanks to the speaker. The lecture was attended by a large number of physicians not only from Albany but from neighboring counties. After the lecture a reception was tendered Prof. Cohnheim by the University Club at its house on Washington Avenue.

JOSEPH A. LANAHAN,
Secretary.

ANDREW MACFARLANE,
President.

In Memoriam

GEORGE FREDERICK BARKER, M. D.

Dr. George Frederick Barker, one of the most eminent of the alumni of the Albany Medical College, died at his home in Philadelphia, Pa., May 25, 1910. Dr. Barker did not follow the practice of medicine, but had devoted his life to chemistry, in which he attained an enviable fame. In 1903, he wrote for his class reunion, a modest sketch of his life, stating that three years before he had retired from active work, on account of failing health, and since then he has been for the greater part of the time in Europe. For the following outline of his career, the ANNALS is indebted to the *Yale Alumni Weekly*:

Professor Barker was born at Charlestown, Mass., on July 14, 1835, the son of George and Lydia Prince (Pollard) Barker. In Sheff. he rowed on the Olympia Crew, and after graduation studied at the Albany Medical College, receiving the degree of M. D. there in 1863. He was later given the degree of Sc. D. by the University of Pennsylvania in 1898, that of LL. D. by Allegheny College in 1898 and an LL.D. again in 1900 by McGill University. He served successfully as assistant in chemistry at Harvard, professor of natural science at Wheaton College, Wheaton, Ill., acting professor of chemistry at Albany Medical College, professor of chemistry, Western University of Pennsylvania, and assistant in chemistry at the Yale Medical School. In 1867 he was appointed professor of physiological chemistry and toxicology in the Yale Medical School, holding this chair for six years. He was then professor of chemistry at Williams College for one year, and in 1873 received the appointment of professor of physics at the University of Pennsylvania, which position he held until 1900, since which time he had been professor emeritus at that University. While at Yale he served as state chemist of Connecticut in 1872 and served as expert on a number of toxical cases. He was a member of the solar eclipse expedition to Rawlins, Wyo., in 1878, was a commissioner of the United States to the Electrical Exposition at Paris, France, in 1881, and received from the French government the decoration of the Legion of Honor. He was an honorary member of the Royal Institute of Great Britain. His published works included: "Text-book of Elementary Chemistry," "Advanced Course in Physics," numerous magazine article on scientific subjects, and addresses, lectures and reports. He married at New Haven, Conn., August 15, 1861, Miss Mary Minerva Treadway, daughter of George Treadway, an inspector of United States customs, at New Haven. Of their children, Charles E. Munroe Barker graduated from Harvard in 1871; Miss Clara Treadway Barker graduated from Wellesley, and Percival Dove Barker graduated from Harvard in 1898.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

Medical Gynecology. By SAMUEL WYLLIS BANDLER, M. D., Fellow of the American Association of Obstetricians and Gynecologists; Adjunct Professor of Diseases of Women, New York Post-Graduate Medical School and Hospital; Associate Attending Gynecologist to the Beth Israel Hospital, New York City. Second revised edition of 698 pages and 150 illustrations. Philadelphia and London, W. B. Saunders Company, 1909.

In the preface to the first edition the writer states that the book has been prepared as a result of frequent inquiries for a work dealing with the non-operative side of gynecology. The various topics have been viewed from the standpoints of the symptoms, the disease, the bimanual and microscopic findings, and the general physical and nervous state. In order to do this repetition and reiteration are necessary but these emphasize the important points and make each section complete in itself, thus diminishing as much as possible the necessity of referring to other sections except for more complete elucidation. He has endeavored to show the relation which pelvic abnormalities really bear to the physical and mental state of the female in order that we may deal intelligently with the gynecologic diseases and not confine our diagnosis and therapeutic methods to the pelvis. The writer states that he has consulted particularly the writings of Kirsch (puberty); Joseph (syphilis and gonorrhoea), Bumm, Wertheim and Finger (gonorrhoea), Oshar Frankl (electricity and hydrotherapy), and especially Winter for much that has appeared in the book.

In the preface to this the second edition he states that the chapters on electricity and hydrotherapy have been enlarged and various other additions have been made to the book as a whole.

The first section is devoted to gynecological examination; the next to a description of the various methods used in the medical treatment of gynecological conditions. This is followed by a very important feature of the book, *i. e.*, the study of the principal symptoms arising from gynecological diseases by stating the causes of each and methods of diagnosis and treatment. The chapters on associated nervous conditions, constipation and gonorrhoea are very thorough and practical. The various gynecological diseases are presented by describing the pathological conditions present, its symptoms, diagnosis, and the treatment indicated.

The work is particularly valuable to the general practitioner because it presents the subject just as it occurs in practice, *i. e.*, from the standpoint of the patient as a whole and not from the consideration of the pelvis alone.

J. A. S.

Modern Surgery: General and Operative. By J. CHALMERS DAcOSTA, M. D., Professor of Surgery and of Clinical Surgery in the Jefferson Medical College, Philadelphia. Sixth edition, greatly enlarged. Octavo of 1502 pages, with 966 illustrations, some in colors. Philadelphia and London. W. B. Saunders Company, 1910. Cloth, \$5.50 net; half Morocco, \$7.00 net.

Notwithstanding the fact that the fifth edition of this work was published less than three years ago, the material progress that is being made in surgery, demanded, in the author's opinion, a thorough revision of the work at this time. Almost every section of the book has been altered or added to for the sixth edition. Of the more important of the newer methods which receive particular mention are,—arteriorrhaphy; Crile's arteriovenous anastomosis for affecting transfusion of blood; Brewer's tubes for transfusion; the use of Halsted's aluminum bands in the treatment of aneurism; the operative treatment of recent fractures; Hoesley's operation for chronic spinal meningitis; the use of positive and negative air pressure in intra-thoracic surgery; Murphy's method of treating acute peritonitis; Cushing's operation of decompression for brain tumors; Bier's intravenous local anaesthesia; the intra-glandular extirpation of goitre; Bier's treatment of inflammation; Wasserman's reaction for syphilis and the serum diagnosis of cancer.

The work consists of but a single volume of 1,500 pages. One is impressed, however, with the thorough and comprehensive manner in which the author has dealt with so extensive a subject.

The subject matter is well classified and is arranged in forty chapters. The illustrations are numerous and very satisfactory. I should place this work in the first rank of modern text-books on surgery. G. E. B.

Diseases of the Genito-Urinary Organs, Considered from a Medical and Surgical Standpoint, Including a Description of Gonorrhea in the Female, and Conditions Peculiar to the Female Urinary Organs. By EDWARD L. KEYES, Jr., M. D., Ph.D., Clinical Professor of Genito-Urinary Surgery, New York Polyclinic Medical School; Surgeon to St. Vincent's Hospital. With 195 illustrations in the text and seven plates, four of which are colored. New York & London. D Appleton & Co., 1910.

The subjects treated in this volume include the diseases of the urinary organs, both male and female, the diseases of the male genital organs, and syphilis. They are considered from a medical as well as a surgical standpoint. The volume is apparently intended for the use

of the student and general practitioner, for the refinements of urology are not treated in sufficient detail to be of practical benefit to the specialist.

The volume contains a large amount of valuable information and should have a wide range of usefulness in the particular field for which it was intended. The illustrations and colored plates are excellent and the volume is a splendid example of good bookmaking.

The propriety of including syphilis in a work purporting to deal entirely with genito-urinary diseases is very doubtful.

G. E. B.

Preparatory and After Treatment in Operative Cases. By HERMAN A. HAUBOLD, M. D., Clinical Professor in Surgery and Demonstrator of Operative Surgery, New York University and Bellevue Hospital Medical College, New York, with 409 illustrations. New York and London, D. Appleton & Company, 1910.

In the opinion of the author of this volume there should exist a closer relationship between the surgeon and physician in the management of operative cases. From this viewpoint this book has been written. It deals with the preparation of patients for operation and their post-operative care, and is intended to instruct the general practitioner in all of the many details for the management of operative cases.

The book contains thirty-four chapters. They deal with the important factors of preparation for operation, the patient, instruments, dressings, solutions, suture and ligature material, assistants and the operating room. Then the after care is taken up, of the wound, drainage, dressings, haemorrhage, post-operative complications, and feeding. Operations in difficult regions are then discussed.

The text is well illustrated and the book presents a very attractive appearance.

G. E. B.

The Conquest of Disease Through Animal Experimentation. By JAMES PETER WARBASSE, M. D., Surgeon to the German Hospital Brooklyn. D. Appleton & Company, 1910. New York and London.

The aim of this small volume is to give some correct information upon animal experimentation, with the hope of correcting in the mind of the general public some misconceptions. It unquestionably is a step in the right direction and the book should have a wide circulation.

G. E. B.

DERMATOLOGY

Edited by Frederic C. Curtis, M. D., and Harry W. Carey, M. D.

The Vaccine Treatment of Acne Vulgaris.

G. T. WESTERN. *British Journal of Dermatology*, January, 1910.

The writer defines Acne Vulgaris as a condition in which there is a hypersecretion of sebaceous material associated with or caused by a microbacillus. It is believed that the Acne bacillus described by Unna, Sabouraud and Gilchrist is the infecting organism. The staphylococcus is frequently associated with the Acne bacillus in producing the lesions characteristic of the disease. The experiments of Fleming sustain the theory that this bacillus is the cause of the comedo and pustules.

By rubbing cultures of the Acne bacillus into the sterilized skin of susceptible individuals a pustular folliculitis is produced from which the Acne bacillus can be recultivated. The opsonic index of Acne patients is not normal and an excessive dose of Acne vaccine produces a negative phase and a new crop of pustules.

It is supposed that a seborrhoea caused by some functional disorder forms a favorable point of entry for the Acne bacillus.

Three types of Acne are mentioned—First in which the comedo forms the chief lesion, second where induration predominates and third the pustular type. In the first type the Acne bacillus is generally found to be the infecting organism, in the second type the infection is usually mixed-Acne bacillus and staphylococcus and in the third type the infection is most often due to the staphylococcus.

Before attempting vaccine therapy it is essential to determine the nature of the infection by the use of smears and cultures made from the lesions.

Either a stock or an autogenous vaccine may be used. The author finds the stock staphylococcus vaccine satisfactory but an autogenous Acne bacillus vaccine is preferable although a stock vaccine will suffice in many cases.

The dose of Acne bacillus vaccine is much smaller than most vaccines varying from three to fifteen million bacteria per dose administered at intervals of eight days.

Local therapy should be carried out in conjunction with the vaccine treatment. The author summarizes cases typical of each group in which successful results have been obtained.

Recent Investigations of the Cause of Syphilis. (Neueste Fortschritte in der Erforschung des Syphiliserregers.)

HOFFMANN. *Berliner klinische Wochenschrift*, No. 1, 1910.

The Giemsa stain based upon the Romanowsky method is still considered to be the best stain for the spirochaete pallida. It has the disadvantage of deteriorating with time and requires much care in its preparation and preservation. The demonstration of the spirochaete is rendered easier and more rapid by the dark field illumination. By this

method it is possible to see the living organisms in the fluid from syphilitic lesions. It requires a special appliance for attachment to the microscope.

A still better method, the best so far found, is carried out as follows—A small amount of fluid is removed from the depth of a suspected lesion and placed on a slide, to this is added a drop of india ink diluted in nine parts of water. The drops are thoroughly mixed, spread in a thin layer on the slide and allowed to dry in the air. Under the microscope the spirochaetes are unstained and are transparent from the light reflected through them. The rest of the field has a brownish color from the india ink. Other organisms are also visible but they will hardly be confused with the spirochaete.

For demonstrating the spirochaete in tissue the improved method of Levaditi is in general use. It is well to counter stain the sections with Hematoxylin after the method of Heidenhain.

Many efforts have been made to cultivate the spirochaete on artificial culture media but until recently they have been failures. Schereschewsky in Neissers clinic inoculated specially prepared horse serum with syphilitic tissue and after several days succeeded in obtaining a mixed culture in which the spirochaetes developed and multiplied. In the media sulphuric acid was formed indicating putrefactive changes. Inoculation of animals with this culture was not successful. Mühlens grew a pure culture of the spirochaete from a syphilitic gland and developed cloudy colonies in the depth of horse serum agar. They grew only under the strictest anaerobic conditions. Subcultures in serum bouillon were deposited in the form of small clumps. Haendel also obtained a virulent culture from the testicle of a rabbit.

In the transmission of syphilis efforts have been directed toward finding other animals susceptible to the virus. The inoculation of rabbits has been successful first in the cornea and then in the testicle. The lesions produced had all the appearance of syphilitic origin and contain the spirochaete. Grouven inoculated syphilitic tissue into the anterior chamber of the eye of a rabbit which died in sixteen months of severe general symptoms—alopecia, emaciation papular macular and ulcerating lesions in various portions of the body. In these lesions as well as in some portions apparently not affected by the disease the spirochaete were found in large numbers.

The Effect of Measles on Psoriasis. (Einwirkung von Masern auf Psoriasis Vulgaris.)

FRIEDJUNG. *Deutsche medicinische Wochenschrift*, No. 8, 1910.
and

A Case Showing the Effect of Measles on Psoriasis. (Ein Fall von Einwirkung von Masern auf Psoriasis Vulgaris.)

RUBENS. *Deutsche medicinische Wochenschrift*, No. 3, 1910.

The articles comprise the report of two cases of Psoriasis which developed Measles. In the first case the psoriasis was of universal distribution and of a severe type. After ten days of observation the patient

was taken sick with measles complicated with pneumonia. At about the fifth day the scales of the psoriasis dropped off in great masses leaving only small patches of pigmentation to mark the former seat of the lesions of psoriasis.

In the second case the psoriasis was of thirteen years duration, of universal distribution and not affected by treatment. The patient developed measles and on the third day of the disease the scales dropped off and left only small areas of pigmentation. The head which was most affected by the psoriasis is now free from any lesions and the patient is entirely recovered.

The authors suggest that possibly the intense hyperaemia produced by skin eruption of measles is responsible for this remarkable effect on the psoriasis.

Intravenous Treatment of Varicose Veins. (Ein Neues Verfahren der Intravenösen Behandlung der Varicositäten der Unter Extremitäten.)

P. SCHARFF. *Berliner klinische Wochenschrift*, No. 13, 1910.

The method is based upon the fact observed in the intravenous administration of drugs, as, for example, the intravenous sublimate injections after the method of Baccelli in the treatment of lues. The action of the sublimate on the walls of the vein often produces a thrombosis. This happens less often in healthy veins than in varicose veins.

The writer has used this method over a period of six years and on ninety cases. The solutions used are two as follows:

Sodium chloride	24.00
Mercuris chloride	1.00
Distilled water	3000.00
 Sodium chloride	 39.00
Mercuric chloride	1.00
Distilled water	5000.00

If the veins are not prominent enough the patient is instructed to bear the weight entirely on one foot for a short time. A compression bandage, preferably of rubber is placed above the veins and then the needle is introduced making sure it has penetrated the vein by disconnecting the barrel of the syringe and allowing a drop or two of blood to escape. The solution is then injected.

The author advises for the first injection five-tenths of a cubic centimeter of the weaker solution. In general the greater the extent of the lesions of the vessel walls the weaker the solution and the smaller the dose. Unless there is too severe a reaction the amount of the solution may be increased gradually to one, two, three, four, and five cubic centimeters. It is safe to inject at three points at the first sitting.

The main object of the injection is to bring the solution in contact with as much of the endothelial lining of the vein as possible as this leads to

the formation of the thrombus. After the injection the compression bandage is left in situ for a short time to avoid the absorption of the solution into the general circulation.

The large varices or the smaller tributaries may be treated first according to choice.

It is advisable to inject at three to eight points at each visit with an interval between injections of three to six days. In some cases this interval may be shortened to every other day. If the injections are properly made no after effects should be noticed beyond a slight soreness at the points injected. The site of the injection should be at the most prominent parts of the vein as far as possible from the trunk, preferably midway between the knee and the ankle, avoiding points where the skin is in close contact with the bone as on the dorsum of the foot and over the tibia.

The effect on the varix is noted on the following day in the collapsed condition of its walls and greenish-yellow color. Later the color becomes grayish and finally the varix disappears. No recurrences were noted in any case in which the treatment had been thoroughly carried out.

MATERIA MEDICA AND THERAPEUTICS

Edited by Spencer L. Dawes, M. D.

The Treatment of Scarlet Fever.

A. KNYVETT GORDON. *The Practitioner*, January, 1909, p. 84.

The subject is discussed from a practical rather than from a scientific standpoint. In the general management of the average case it is not necessary to send the patient to the hospital if he can be isolated and treated at home without difficulty. Hospital treatment is indicated when the number of children in a house is large or when other children in the house are in a condition to render the contraction of the disease a serious matter to them or would interfere with their education, would occasion financial embarrassment to others, or where the patient is seriously ill and adequate nursing cannot be obtained. It is most difficult to obtain good nurses for scarlet fever in private practice, most of those willing to take these cases having received inadequate training, some of them none at all, and it is difficult to exaggerate the value of the nursing factor in the treatment of scarlet fever.

Fresh air is of great importance and often neglected, an open window or daily warm bath being often regarded as gross heresies. While there should be a constant current of fresh air, the patient should be warmly clad. All utensils of whatever kind should be sterilized and kept for the patient's use alone.

The key to the treatment is to remember that it is the complications which matter and that these can be avoided by skilful management. The discomfort of the pyrexia can be relieved by a tepid bath, irrespective of the height of the fever, and this keeps the skin active in the elimination of the toxins. It should be given several times in twenty-four hours until the temperature is normal, then once each day. Twice each week the patient should be anointed with olive oil to which about 1 per cent. of some antiseptic, excepting carbolic acid, has been added. Ice packs to the neck will relieve the pain of the sore throat, or irrigations of very hot water are sometimes most acceptable. No lozenges of any description should be allowed, as they involve the swallowing of the septic faucial secretion.

In irrigation of the fauces the patient should lie on his stomach, with the head projecting over the edge of the bed and supported by an attendant. Two pints of fluid should be used. The object of the douche being simply to cleanse, only warm water is used. The nurse should wear rubber gloves and a freshly sterilized nozzle should be used for each patient.

Toxic cases.—While the sera used are most uncertain, they sometimes prove of use and should always be tried. The serum should be polyvalent, should be used early and in a large dose, at least 50 to 100 c. c., should be given subcutaneously or by intravenous injection, diluted with several pints of saline solution, and should be not more than six months old.

Septic cases.—Here the results hang on the efficacy of the local treatment, that is to say, the skill and thoroughness of the nurse. Whatever germicide is used it should be very concentrated, applied with a swab, this in conjunction with irrigation with warm water. Izal solution, undiluted, used from one to four times each day, is found the most satisfactory, for it is anaesthetic, does not harm healthy tissue, and seems to have a selective action on necrotic tissue. To prevent caries any defective teeth should be at once removed. If pharyngeal or tonsillar swelling is very great tracheotomy should be performed. As soon as fluctuation appears any enlarged cervical glands should be incised, as a neglect of this may lead to fatal hemorrhage from the great vessels. In septic cases the sera should be avoided as they never do good and frequently are most harmful. The diet should be milk or milk and eggs, and later carbohydrates. When the patient is better and hungry solid food may be used, but all meat extracts are to be avoided. Alcohol and strychnine are not only useless but harmful.

Complications.—As a rule the kidneys are not themselves diseased in nephritis and diuretics are harmful. The skin should be encouraged to act by hot baths, etc., the bowels stimulated with salines, cupping and pilocarpine being avoided. Uremic convulsions are easily controlled by chloroform and are, as a rule, not alarming. Endocarditis requires rest in bed, salicylates, and alkalis.

Antistreptococcic Serum in Scarlet Fever and Diphtheria.

MEREDITH YOUNG. *The Practitioner*, January, 1909, p. 153

The repeated association of streptococci, of varying lineage, with scarlet fever has led to but few attempts to treat the disease with an appropriate anti-serum. The early results were not encouraging, but later Moser's serum, used in cases of the septic variety, encourages us much. Moser's mortality in eighty-one cases treated on the first or second day was *nil*, while of sixty-three cases in which the serum was not employed nine died.

Banks (*Journal of Pathology and Bacteriology*) supports the view that scarletinal nephritis is due mainly, if not entirely, to streptococcal infection. Additional evidence is furnished by Escherich and Moser with doses of 200 c. cm., the mortality before the serum treatment being 14½ per cent., but falling to 8 afterwards. The writer used sera in seventy-five cases of varying grade, usually Aronson's serum, with the following results: Secondary angina was never observed in a single case. But four cases of glandular enlargement occurred, none of them proceeding to suppuration. In 300 cases in which serum was not used sixty-eight were affected. In one case the serum seemed to aid in checking a gangrenous angina. Otitis occurred in 8 per cent., while in the 300 cases it occurred in 20 per cent. Nephritis appeared in 10⅔ per cent. of the serum-treated cases and in but 6 per cent. of the untreated cases. Rheumatism and rhinitis were seen less frequently than is usual in untreated cases. But one death occurred and this was in a patient who was admitted on the fourth day, practically moribund.

In mild cases small doses, 10 c. cm. each day for three or four days is used, but in septic cases even young children should have from 20 c. cm. to 40 c. cm., always using a polyvalent serum.

On the Pharmacological Action of Some Phthaleins and Their Derivatives, with Especial Reference to Their Behavior as Purgatives. I.

JOHN J. ABEL and L. G. ROWNTREE. *The Journal of Pharmacology and Experimental Therapeutics*, October, 1909, p. 231.

Phenolphthalein and its halogen substitution products differ but little in pharmacological behavior. They are non-irritant to mucous membranes, to open wounds, or when injected subcutaneously in oil solution. Their salts with sodium and potassium are highly irritating when administered subcutaneously in aqueous solution, their toxicity is low, they have no bactericidal action, and when injected intravenously cause a small and prolonged rise in arterial pressure. Both phenolphthalein and its tetrachlor derivative exert a laxative or purgative action, either by mouth, by subcutaneous, or by intravenous injection. When the tetrachlor derivative in oil is injected under the skin a laxative action is induced which

lasts from four to six days. The phenolphthalein, being more quickly excreted, is less prolonged in its action. This prolonged action indicates that a serviceable purgative for hypodermic use will be found among the phthaleins or their derivatives. Phenolphthalein and its tetrachlor derivative are excreted by the bile and the former also by the urine. All the phthaleins are absorbed by the large and none by the small intestine, and they are not excreted by the intestines except in minimal quantity, if at all.

The experiments made were many and exhaustive and this paper deals with phenolphthalein, phenoltetrachlorphthalein, tetrabromphenoltetrachlorphthalein phenolsuphonephthalein and with the introduction of the acetyl radical into the molecule of the third and fourth in the list. A later paper will deal with further phthalein compounds and the results obtained by what has been already published would indicate that the work of Abel and Rowntree will prove of much practical value to the physician, aside from its interest in pharmacological methods and experimental therapeutics.

Vaccine Therapy in General Practice.

J. COURTENAY MACWATERS. *The Practitioner*, September, 1909, p. 327.

The subcutaneous introduction of dead bacteria into the human organism is followed by a definite succession of changes in the opsonic content of the blood if the dose is sufficiently large. There is an immediate fall in the quantity of opsonins, followed by a rise above that prior to the inoculation, then a gradual return is made to or below normal. These are the negative and positive phases and the phase of increased resistance. During the first there is a lowered resisting power to that organism, in the other two a greatly increased resisting power.

Unless the dose has been excessive the negative phase is of but short duration, followed immediately by a prolonged, well-marked rise of the index, higher than the point at which it stood prior to inoculation. These phases are shown clinically by changes both in the focus of infection and in the general condition of the patient. After a time, dependent on the size of the dose and the idiosyncrasy of the patient, this improvement wanes, and he tends to return to his original condition. Our aim should be to so arrange the sequence of doses that the patient receives another dose before his phase of increased resistance has terminated, thus obviating a negative phase low enough to cause distress. It necessarily follows that when a patient's index before treatment is low the dose should be sufficiently small to produce an almost negligible negative phase so that the reaction which brings his index up to nearly normal allows us to give him another dose, bringing his index still higher.

The author has been most successful in treating acne, boils, carbuncles, suppurating small wounds, styes, impetigo, bullous onychia, chronic ulcer of the leg, tuberculous glands, and many cases of chronic suppuration from various causes.

ALBANY MEDICAL ANNALS

Original Communications

THE FUNCTIONS OF A COUNTY MEDICAL SOCIETY.

President's address delivered at the annual meeting of the Albany County Medical Society, May 11, 1910.

By ANDREW MAC FARLANE, M. D.

It seems wise at this annual meeting of our society to review briefly what has been done during the past year and to place on record the successes and failures which have attended its work. The future may thus be made more successful both by the avoidance of our mistakes and by the recognition and further development of whatever may have been of value. The original objects of this society according to its charter were "the regulation of the practice of physic and surgery within this county and the reception and collection of information on different subjects relative to medical science by medical dissertations."

The regulation of the practice of medicine has been taken from the jurisdiction of the county societies except in so far as it refers to the general relationship of physicians to each other and to the community. To-day, however, the purposes of a county society have increased as have the demands of a more intense civilization. It officially gives expression to the highest professional opinion upon subjects of common weal and establishes the standard of the profession in the community. It provides the arena for the presentation and discussion of scientific topics, stimulating the interest of its members in a broader and

deeper aspect of their profession thus enabling them to care better for the sick and to appreciate more keenly the methods of preventing disease. It furnishes the opportunity for social intercourse thus allowing us to know better and a different view of our fellow workers and to develop along broader lines.

Although our county society has always taken an advanced position upon matters of public legislation, it is questionable whether as a body we have done our full duty to the public. In these days of fads and fancies, of new cults and chimerical beliefs, of strange wanderings after new deities it would seem to be the present and pressing duty of the medical profession to lay aside its seeming secretiveness and its natural reticence and to stand like a prophet of old pointing out to erring humanity the true road to health. This must not be done in any apologetic, half-hearted tone but like a Samson with the full consciousness of what has been, is being and will be accomplished for the good of humanity by our profession. A moment's thought upon what has been done since Koch discovered the tubercle bacillus in 1882 justifies, even demands, such an attitude.

Tuberculosis is gradually being hemmed in and may within our lives be blotted out entirely. Diphtheria is no longer the fated scourge of childhood. Malaria, yellow fever and cholera are becoming unknown and in a few years will be classed among medical rarities. Typhoid is now recognized as a civic sin due to municipal filth and disappears as soon as that fact is appreciated. Meningitis is being rapidly overcome and cancer that dreaded and dreadful bane of mankind seems likely within our ken to be under control. It is a waste of your time to narrate to you the marvelous growth of modern surgery, the eradication of the dangers of pregnancy and the tremendous saving of child-life by proper dietetics. But does the public understand and appreciate what has been done? Is it not time that we should come out of our shell and educate the people to understand and appreciate this work so that they can themselves see at a glance the difference between scientific methods and quackery. Could not the county societies begin a campaign of education by illustrated public lectures upon subjects so truly vital to mankind?

After the laity had learned the tragedy of the discovery of the cause of yellow fever and the story of the demonstration of the plasmodium malariae; after they appreciated the theory and

the results following the use of the antitoxins and the experimental methods of advancing medical science—all of which are more fascinating than any fiction, do you think they would have any patience with pseudo-science under any name or with the hysterical effort to limit, curb or hinder those who are blazing the way for us to follow and pointing out nature's method of combating disease. Such lectures three or four a year could be given by laboratory workers and would without doubt be very popular. The hundreds of thousands who attend the tuberculosis exhibits prove the vital interest the people take in their own welfare.

The society should encourage its younger members to take a more active part in its work—the report of an interesting case with an exhaustive review of the literature would be a most valuable training and a mine of information to all of us. The older members, rich in the experience of years, and wise from attrition with their fellows, could wisely and kindly criticize and add and amplify out of their full storehouse of experience. They would thus materially assist in the general improvement and keep themselves up to the high level they had placed for themselves.

Another important duty of the society should be to welcome distinguished medical visitors and to invite the presentation of papers by our professional brethren from other cities. This not only gives us the opportunity of manifesting our appreciation of their work but also often presents to us a new view of well-known subjects or stimulates our mind along new channels. Such gatherings are also helpful in developing us along broader social lines and in taking us away from the routine of everyday practice.

The effort has been made to develop our county society along these several lines. How successful is for each of you to judge.

There have been ten regular and two special meetings during the year past. Two of these meetings were of a quasi-public character, were largely attended and apparently much enjoyed by the profession of Albany and vicinity and also by many non-medical guests. Five physicians, non-members of our society, read papers which were helpful, stimulating and full of much thought. In six regular meetings fourteen physicians of this county took active part by the reading of papers or by demon-

strations. One meeting was given up to a symposium by the Clinical Club of Albany. This meeting demonstrated the valuable work which can be accomplished by concentrated effort upon one topic and reflected most creditably upon all who took part. Two special meetings were held for the sad purpose of placing upon record our deep and sincere appreciation of the life and professional character of two of our deceased members—Dr. Charles Whitbeck, of Cohoes, N. Y., and Dr. John L. Cooper, of Albany, N. Y. Both fought a good fight and faced death without flinching. Our membership has been increased by the addition of twenty-nine new members. With this brief review of my stewardship which has fallen below my hope and expectation, I turn over the responsibilities of this office to my successor.

In conclusion I wish to thank the members for their kind and generous support and especially do I wish to express my indebtedness to Drs. Holding, J. L. Archambault and J. N. Vander Veer for the very successful meetings they arranged.

FRACTURE OF THE LOWER JAW.

Read before the Medical Society of the County of Albany, March 16, 1910.

By LE ROY BLATNER, D. D. S.

Fracture of the inferior maxilla or mandible is the most common fracture occurring among the bones of the face. This results from its prominent position, large size and superficial location.

Fractures are either simple or compound; simple when they do not communicate externally, and are associated with a minimum involvement of the adjacent soft tissues; compound when the tissues between the bone and the skin, or mucous membrane are so destroyed that the line of fracture communicates with the air.

Fractures of the mandible are extremely liable to be compounded into the mouth, because of the close relationship of the mucoperiosteum to the bone; less frequently an external opening may exist through the skin, and in rare cases the presence of both an external and internal opening will allow the escape of saliva through the wound upon the face.

The fact that fractures of this bone are not more frequent is due to its extreme mobility, the strength and density of its structure and the great elasticity afforded by its arched shape.

Fracture is usually the result of traumatism, generally from blows upon the face with fists, often kicks of large animals, less often from falls, the impact of heavy missiles, or from gunshot injuries. Secondly, a section of mandible is frequently removed as means of treatment for necrosis and malignant condition.

Fractures of the alveolar process are very common, occurring with great frequency, during tooth extraction, portion of the alveolar being loosened or entirely torn away without involving the body of the bone. Falls upon the chin may result in a similar condition by forcibly driving the teeth into their sockets. Such fractures are of little importance, as they give no trouble and usually heal without special treatment.

Of the complete fractures of the mandible one just anterior to the mental foramen the socket of the canine tooth, which is the weakest part of the bone, is of most frequent occurrence.

Fractures in other parts of the bone occur in the following order of frequency; between the cuspid tooth and angle of the jaw; between the symphysis and cuspid tooth; at the angle of the jaw; and at the symphysis.

Fractures above the angle are very rare; they may occur through the ramus; at the neck of the condyle; or through the coronoid process.

The universal concomitant of fracture is pain, sudden, sharp and usually continuous; this is soon followed by swelling at the site of the injury, the jaws become fixed and in the course of forty-eight (48) hours discoloration appears in the immediate region. All attempts to open the jaws to masticate, or to swallow cause an increase of the pain. The swelling and displacement usually cause facial deformity, which is evident upon inspection. The normal occlusion may be altered or entirely destroyed and upon motion of the fragments, one upon the other, crepitus will usually be found.

Fractures through the tooth bearing region may cause the loosening or entire loss of one or two teeth. Pressure externally along the body of the bone will develop a point of tenderness corresponding to the line of fracture. Displacement is, naturally, greater in the compound than in the simple variety, and greatest

when the fracture is multiple. The amount of displacement also varies with the site of the fracture and with the force and direction of the blow; being slight in fractures occurring at or near the symphysis increasing as the line of fracture passes laterally until the angle is reached, beyond which the splinting action of the muscles attached to the part prevent much displacement. In fractures of the neck of the condyle, the condyle is carried forward by the unrestrained action of the external pterygoid muscle.

As already stated above, fracture of the mandible is usually compound; this, however, does not materially affect the prognosis unless wound infection results in necrosis, a complication, which can usually be prevented by careful oral hygiene during the process of healing. Of all the fractures occurring in the body of the bone at least one-quarter ($\frac{1}{4}$) are multiple, that is, there exists a second line of fracture not communicating with the original one. This fact should not be overlooked and search should always be made for the condition. One line of fracture being found in the region of the canine tooth, the second will probably be found at or near the gonion on the opposite side.

The prognosis in fracture of the mandible is generally favorable except in extreme old age. Complications, though infrequent, must be guarded against by frequent cleansing of the wound and mouth, and removal of fragments of bone, which show the slightest tendency to produce suppuration. In the average case bony union occurs in from four (4) to six (6) weeks.

Should the completion of the process be delayed much beyond this time, search must be made for the cause, which will usually be found to consist in a failure to obtain absolute immobility and accurate adjustment of the parts.

The latter condition interferes greatly with callous formation, allowing the soft tissues to become interposed between the broken ends of the bone. Failure to unite may also be due to circulatory or nutritional disturbances; caused by injury to blood vessels or nerves at the time of the accident. Finally, the presence of constitutional disturbances such as typhoid fever, syphilis, mineral-poisoning and the like may be accountable for delay or non-union. These complications should always be borne in mind, for though extremely rare, they may be of considerable value, medico-legally.

A form of pathological fracture is sometimes met with, the result of previous bone disease, which has so weakened the bone at some point that it yields readily to a strain or to some mild traumatism. These fractures usually occur in the bones that have previously been the seat of necrosis caused by mineral-poisoning, syphilis or malignant growths.

Briefly stated, the treatment consists in the application of a fixation appliance, after the careful reduction of the fracture, and its maintenance within the mouth for a period varying from four (4) to six (6) weeks. The mandible, prominently situated as it is and affording attachment to some thirty (30) muscles, and being intimately associated with all the movements of speech and mastication will be seen to require treatment best calculated to completely restore its function and this in as short a time as possible.

With the methods, at our command, at the present time these requirements can be practically fulfilled in the majority of cases when the line of fracture is anterior to the last tooth.

Treatment.—The use of the upper teeth as a splint and guide for maintaining the fragments in place, with the aid of a bandage, except in special cases, is to be condemned on the ground that it greatly limits the motion of the jaws and dooms the patient to a soft diet and to speechlessness for a period of from four (4) to six (6) weeks, gaining at the most, imperfect fixation and an uncertain result.

The commonly used metal and vulcanite interdental splint and known as the Hammond Splint, is open to the same objections, for although it affords firmer fixation it greatly limits the functions of the mandible. The writer has employed this form of splint until very recently and with excellent results.

The above methods depend for their fixation upon some form of external head-gear, which at best, requires constant attention, and is unsightly and a constant annoyance to the patient, while in restless and vicious children and in the insane it is impossible to keep it in its proper position. The continued use for any length of time, of a fixation bandage passing around the front of the chin and neck, not only frequently interferes with the proper breathing, but may result in positive and permanent harm, as the following case demonstrates.

The patient, a man, previously in good health, and with no recognized oral deformity was admitted to the hospital suffer-

ing from a fractured jaw, the result of a fall. At the time of admission he was given the routine hospital examination; the condition was recognized and a Barton bandage applied. Some weeks later, in the fall, he came into the hands of the dental staff still wearing the Barton bandage, when the following condition was noted. Externally the facial lines, although fairly symmetrical, showed marked contraction and recession about the chin; within the mouth, the right canine tooth was found almost directly behind the left canine and internal to it, showing a displacement and overlapping to the extent of nearly six (6) teeth. There was fibrous union with the bones in this position which caused such contraction of the floor of the mouth that there was no room left for the tongue. Corrective treatment was offered but refused. It will be seen by this illustration that unless carefully watched, the constricting action of a bandage, without proper fixation of the parts by other means, is capable of entirely defeating our best efforts, and of causing permanent deformity.

The metallic cap splint affords a certain and effective means of securing fixation, while possessing none of the objectionable features of the previously mentioned fixtures. The preparation of this splint requires, but average mechanical skill and can be constructed and cemented into place in a few hours. The first requirement is an accurate cast of the teeth of the fractured jaw, best obtained by taking an impression in plaster, from which the plaster cast is obtained. Plaster of paris is preferable to the other impression materials, because it can be used without the aid of a metallic impression tray, which at best is very cumbersome, and if used here, would add much to the patient's discomfort.

Another advantage of this material is its quality of fracturing sharply without changing shape when it has once become hard, a fact, which is taken advantage of when removing the impression from the mouth.

When the impression has become thoroughly hardened in the mouth, it is split into pieces with a sharp knife and removed piecemeal; afterwards these fragments are fitted together and held in position by a little sticky wax. The cast is made by pouring plaster, properly mixed, into this impression, and when the cast is hard, cutting away the plaster of the impression from around it.

A cast made after this method will give us an accurate fac-

simile of the teeth in the patient's mouth. An impression in wax is next taken of the upper teeth and another plaster cast is made from this. With the cast of the upper teeth for a guide, the cast of the fractured jaw is sawed apart so that the teeth can be placed in their former normal occlusion with their antagonists.

This corrected cast is made whole again by a little freshly mixed plaster added to its base.

This cast as it now stands represents almost perfectly the form and shape of the mandible before injury. This cast is now ready for the construction of the splint, according to the following method: a die of this cast of Babbit metal (a non-contractible metal) and a counter-die of lead are then poured and between this die and counter-die the splint is swaged.

This may be of gold, platinum, silver or German silver. After careful fitting and adaptation to the cast, all prominent corners are filed away, the edges of the splint are trimmed to conform to the gingival festoon and the whole carefully polished.

The splint is then ready for cementing into proper position. During the cementing process, it may become necessary, if fibrous bands exist or if the muscles are resistant, to resort to an anaesthetic. This depends upon each individual case.

After placing the patient in a convenient position, the mouth is prepared for the operation of inserting the splint. The teeth about to receive the splint are carefully dried by means of cotton rolls and napkins and a current of warm air.

Oxyphosphate of zinc cement, mixed to a creamy consistency, is now applied to the teeth and to the splint, when it is immediately forced firmly down upon the teeth and held there until the cement is firmly set, which will require close to one-half ($\frac{1}{2}$) hour.

From the foregoing description it will be noted that this splint introduces the least amount of foreign substance into the mouth and is contained entirely within the mouth, thereby reducing the patient's discomfort to a minimum, while at the same time affording a rigid support for the fractured bone, free movement of the mandible, and with easy access to the oral cavity from the first.

For the first week the patient should remain quiet and make free use of antiseptic mouth washes. Ice held in the mouth will add to the patient's comfort and have a tendency to reduce inflammation.

Subsequent treatment, in the average case, is quite simple and can be left largely in the hands of the patient after all likelihood of complications has passed.

In those rare fractures occurring above the angle of the jaw, little can be accomplished other than attempts at moderate fixation, depending for retention upon the splint like action of the muscles attached to the part.

In fractures of the neck of the condyle, the condyle is drawn forward and cannot be returned to its normal position, because of muscular tension. It becomes necessary, therefore, to bring the body and ramus forward to meet the displaced fragment. This may be done with wire ligatures passed from the upper to the lower teeth, or with an interdental splint made upon cases articulated so as to obtain approximation of the fragments.

Fractures occurring in the body of the bone in edentulous mouths are very difficult to treat inasmuch as they are difficult to handle. The only method, other than cutting down and wiring the fragments is the insertion of an intermandibulo maxillary splint, made upon plaster casts of the patient's jaw.

The use of the silver-wire ligatures passing through holes drilled in the body of the bone and bridging the site of fracture, is only to be resorted to after all other methods have failed.

Experience has taught us that many cases so treated result in failure and also that it is poor surgery to subject the patient to the increased danger of infection and necrosis accompanying this procedure without offering any greater chances of recovery.

FARADAY: HIS LIFE AND WORK.

Read at a meeting of the Eastern New York section of the American Chemical Society held in Albany, November 6, 1908.

By WILLIS G. TUCKER, M. D.

(Continued from July ANNALS)

At Florence he goes to the Academy, sees Galileo's telescope, and makes the experiment, with Davy, of burning the diamond in oxygen by the heat of the sun concentrated by the great burning glass of the Grand Duke of Tuscany. At Rome they are present at some experiments of Morichini's who attempts to impart magnetism to steel needles by the solar rays, and at Milan he meets Volta, who came to see Davy, and whom he describes as "a hale,

elderly man, bearing the red ribbon, and very free in conversation." At Geneva he describes experiments on the prismatic spectrum made at Pictet's laboratory and tending to show that the rays producing most heat certainly lie outside the visible spectrum and beyond the red rays. But at Geneva some disagreeable things occurred. Professor G. de la Rive perceived at once Faraday's true worth, desired him to dine with them, and when Lady Davy objected, expressed himself strongly. Long years after Faraday wrote to his son, A. de la Rive, "I have some such thoughts (of gratitude) even as regards your own father, who was, I may say, the first who personally at Geneva, and afterwards by correspondence, encouraged and by that sustained me." This correspondence, beginning with the father, continued with his son, and lasted for nearly fifty years.

For reasons not entirely clear Davy's tour was shortened, and in April, 1815, they were back again in London, but Faraday had seen much, and had met and conversed with Ampere, Arago, Gay-Lussac, Chevreul, Dumas, Volta, de la Rive, Biot, Pictet and De Stael. He never cared much for foreign travel, and his later trips abroad were taken chiefly for his health, but he undoubtedly gained a good deal in mental outlook during these early visits to continental capitals.

On returning to London his engagement at the Royal Institution was renewed and in 1816 his salary was raised to one hundred pounds. He now entered upon the real work of his life. His first lecture was given at the City Philosophical Society in January, 1816, and in the same year his first paper, not a very important one, on the analysis of some lime from Tuscany, was published in the *Quarterly Journal of Science*. In 1817 he investigated the flow of gases through capillary tubes, a subject suggested by Davy's safety-lamp experiments in which he had assisted. In 1819 he began a long research on steel and its alloys, and in the succeeding year read his first paper before the Royal Society on two new compounds of chlorine and carbon, and on a new compound of iodine, carbon and hydrogen, and he succeeded in converting charcoal into graphite. His subsequent chemical researches were numerous and important, including the discovery of benzene; the action of sulphuric acid upon naphthalene, and the discovery of the naphthalene-sulphonic acids; his investigation of caoutchouc, and the fluid states of sulphur and phosphorus; and his long researches upon optical glass, but

this work is by no means comparable to his researches in electricity and he soon abandoned it for the physical work which yielded such fruitful results and upon which his reputation mainly rests.

But we ought not to take leave of this part of our subject without reference to Faraday's work on the liquefaction of gases. In 1823 he began the examination of a substance which was regarded as the element chlorine in a solid state but which Davy had shown to be a compound of chlorine and water. He subjected it to analysis and determined its composition, and Davy suggested to him that he try heating it in a sealed glass tube. This Faraday did, and obtained a yellow atmosphere and two liquid substances. Dr. Paris, who happened to witness his experiment rallied him on his carelessness in using an oily tube, but when Faraday later broke the tube its contents exploded and the *oil disappeared*. The next morning he sent to Dr. Paris the following note: "Dear Sir,—The *oil* you noticed yesterday turns out to be liquid chlorine." The gas had been liquefied by its own pressure, and subsequently he obtained the same result by compressing the gas with a pump. Davy felt that the suggestion as to method of procedure originated with him and to the published account of the experiment he added the following note: "In desiring Mr. Faraday to expose the hydrate of chlorine to heat in a closed glass tube, it occurred to me that one of three things would happen: that it would become fluid as a hydrate; that decomposition of water would occur; or that the chlorine would separate in a fluid state." In a letter to Phillips written in 1836 and commenting upon a statement which he deems unfair to him in Dr. Davy's life of his brother, he says:—"How I should have proceeded with the chlorine crystals without the suggestion I cannot now say; but with the hint of heating the crystals in a closed tube ended for the time Sir H. Davy's instructions to me, and I puzzled out for myself that the oil I had obtained was condensed chlorine." And latter he says:—"Sir H. Davy nowhere states that he told me what he expected, or contradicts the passages in the first paper of mine which describe my course of thought, and in which I claim the development of the actual results." This incident produced a feeling of estrangement between Davy and Faraday and marks the beginning of Davy's ungenerous treatment and evident jealousy of Faraday. But Faraday went on with his experiments and succeeded in reduc-

ing a number of other gases to the liquid state, publishing his results in the "Philosophical Transactions" in 1823, and returning to and adding to the subject in 1844. "These important investigations," says Tyndall, "established the fact that gases are but the vapors of liquids possessing a very low boiling point, and gave a sure basis to our views of molecular aggregation." Subsequent to the conclusion of his first series of experiments he learned that others had, to some degree, anticipated his results, and that sulphurous acid had been liquefied probably before 1800, and chlorine condensed by Northmore in 1805, and he made haste to give credit for these results to those who had obtained them, but, if anticipated in part, his work was none the less original, and it was also much more extensive and conclusive than any that had been done by others in this direction.

This difficulty with Davy was particularly unfortunate because it led to the malicious revival of charges which had been made against Faraday by some friends of Dr. Wollaston's two years before in the matter of the discovery of electro-magnetic rotation, but this matter had been settled to Wollaston's entire satisfaction through the straightforward and manly action of Faraday. Faraday was at this time a candidate for fellowship in the Royal Society and these unfortunate circumstances greatly embarrassed him and probably led to Davy's opposition to his election. Davy at this time was president of the Society and Faraday long after gave the following account of his action:—"Sir H. Davy told me that I must take down my certificate. I replied that I had not put it up; that I could not take it down as it was put up by my proposers. He then said that I must get my proposers to take it down. I answered that I knew they would not do so. Then he said, I as president will take it down. I replied that I was sure that Sir H. Davy would do what he thought was for the good of the Royal Society." But his name remained up and his election took place on January 8, 1824, despite Davy's opposition. Of this most unfortunate occurrence Davy's biographer, Dr. Thorpe, says:—"The jealousy thus manifested by Davy is one of the most pitiful facts in his history. It was a sign of that moral weakness which was at the bottom of much of his unpopularity, and which revealed itself in various ways as his physical strength decayed."

In 1825 Faraday was made Director of the Laboratory of the Royal Institution, which office Davy had held together with the

professorship of chemistry. This professorship Davy relinquished to Professor Brande who held the office until 1852. Faraday's activities were incessant. He inaugurated the evening meetings at which experiments were shown or short lectures given, and these soon became more formal and more frequent functions, the gatherings being held in the theatre and ladies admitted save that, for many years, they were seated in the gallery. He originated the famous and popular Christmas juvenile lectures, and continued to give regular courses of morning lectures as both Young and Davy had done.

For several years Faraday did private work both as an analyst and as an expert in law cases thus adding materially to his slender income but, finding this to interfere with his original researches he entirely abandoned a line of work which would have made him rich. As early as 1830 his professional services brought him in not less than a thousand pounds, and he might easily have made in this manner five times that sum yearly, but he chose otherwise. Tyndall, who once examined his accounts and estimated the professional income which might have been his had he chosen to earn it, says:—"Taking the duration of his life into account, this son of a blacksmith and apprentice to a bookbinder had to decide between a fortune of 150,000 pounds on the one side and his unendowed science on the other. He chose the latter and died a poor man. But his was the glory of holding aloft among the nations the scientific name of England for a period of forty years." His devotion to the Royal Institution knew no bounds. In 1827 he declined an appointment as professor of chemistry in the University of London lest it should interfere with his duties and research work, but in 1829 he accepted an appointment as lecturer on chemistry at the Royal Academy at Woolwich which necessitated the delivery of only twenty lectures a year, and for which he was paid two hundred pounds. These duties he discharged until 1849, and in 1836 he was appointed scientific adviser to Trinity House, the body having official charge of the light-house service in Great Britain, at a salary of two hundred pounds, and the duties devolving upon him in this connection he continued to perform until 1865, but these, aside from his salary at the Royal Institution and his pension, were his only sources of income. He endeavored as manager to restore the Institution to a financially sound position, and as early as 1827 expressed to the managers the hope that this might be accom-

plished but it was an uphill task. In 1832 the financial condition became acute and the committee of investigation appointed to consider the matter in their report say:—"The committee are certainly of opinion that no reduction can be made in Mr. Faraday's salary—one hundred pounds per annum, house, coals and candles; and beg to express their regret that the circumstances of the Institution are not such as to justify their proposing such an increase of it as the variety of duties which Mr. Faraday has to perform, and the zeal and ability with which he performs them, appear to merit." A hundred pounds a year, two rooms and coals and candles,—such was the stipend that the most illustrious man of science of the century was receiving.

Faraday's scientific work covers a period of some forty-four years and has been conveniently divided into three epochs. From 1816 to 1830 we have a period that may be regarded as preliminary, the work done being of a miscellaneous character and relatively not of the highest importance. From 1831 to 1839 we have the period of classical experimental researches in electricity, suspended in the latter year by a physical break-down. The third period dates from 1844 to 1860 and during these years he completed his experimental researches in electricity, discovered the relations between light and magnetism, and the phenomena of diamagnetism. To the first period belongs his discovery of electro-magnetic rotations, which led to the unfortunate misunderstanding with Wollaston to which reference has been made, and the particulars of which we need not rehearse. Oersted who was a brilliant reasoner but a poor experimenter had discerned that the "electric current acts in a revolving manner" upon the pole of a compass needle, and Wollaston went further and suggested that there should be a tendency, if a magnetic pole be presented toward a wire through which a current was passing, for that wire to revolve on its own axis. Such a result however he failed to accomplish. Faraday repeated all the experiments which had been made and discovered that if a wire be included in the circuit but so mounted as to hang with its lower end in a cup of mercury, it would rotate around the pole of a magnet, and that, if the wire were fixed and the pole free to move, the latter would rotate around the wire. This research was published in the *Quarterly Journal of Science* for October, 1821, and it was the most important work of the first period. The miscellaneous work of this period we have no time to recapitu-

late, but its volume may be inferred from the fact that during this time he published sixty original papers besides many notes.

His great work on electrical induction properly belongs to the second period. Interesting as it might be to trace his experimentation and reasoning our time will admit of no more than the briefest possible statement of some of his results. He discovered that when an electric current is passed through one of two parallel wires it causes, at first, a current in the same direction through the other, but this lasts but a moment, and when the current is stopped, then a return current occurs in the wire under induction, of about the same intensity and momentary duration, but in the opposite direction. I quote his essential language. Electricity in currents therefore exerts an inductive action like ordinary electricity but subject to peculiar laws. "Then," he continues, "I found that magnets would induce like electric currents, and by bringing helices and wires and jackets up to the poles of magnets, electrical currents were produced in them; these currents being able to deflect the galvanometer or to make, by means of the helix, magnetic needles, or in one case even to give a spark. Hence the *evolution of electricity from magnetism*." We cannot follow in detail his further experiments but they established the principles upon which all modern dynamos and transformers are based and laid the foundation for all our electric lighting and electrical transmission of power.

Another series of investigations entered upon in 1833 dealt with electro-chemical decompositions. On May 16 he writes:—"Is the law this? Equal currents of electricity measured by the galvanometer evolve equal volumes of gas, or effect equal chemical actions in a constant medium?" And then he proceeds to experiment using different-sized poles, different electrolytes, and also poles of different kinds. This term "electrolyte" he was the first to employ; the decomposition he termed electrolysis, and the positive and negative electrodes, after consultation with Whewell, he termed the anode and cathode, Whewell suggesting the terms to supply Faraday's need, as he also suggested the terms ion, anion and cation, in response to Faraday's inquiry as to the best words that might be coined to fit his purpose. In his paper the conclusions reached as to electro-chemical decomposition are stated thus:—"It appears to me that the effects are produced by an internal corpuscular action, exerted according to the direction of the electric cur-

rent, and that it is due to a force either *superadded to* or *giving direction to the ordinary chemical affinity* of the bodies present. The body under decomposition may be considered as a mass of acting particles, all those which are included in the course of the electric current contributing to the effect." Tyndall admirably traces the successive steps by which Faraday advanced in this research which lasted through the fall of 1833, showing how he demonstrated that, whatever its source, when the same current is sent through his series of cells, the same amount of decomposition takes place in all. The quantity of electricity is proportional to the amount of chemical action. And on this fact he based the construction of his voltameter. But a multitude of tests were necessary to remove all possible sources of error and these he made with the most painstaking care, and from them all emerged his doctrine of "definite electro-chemical decomposition," embodying what Tyndall calls the "golden truth," that under every variety of circumstances the decompositions of the voltaic current are as definite in their character as those chemical combinations which gave birth to the atomic theory. "This law of electro-chemical decomposition," says Tyndall, "ranks in point of importance with that of definite combining proportions in chemistry." Faraday then proceeds to speculate upon the *absolute quantity* of electricity belonging to different bodies, using the following language:—"According to this theory the equivalent weight of bodies are simply those quantities of them which contain equal quantities of electricity, or have naturally equal electric powers; it being the *electricity* which determines the equivalent number because it determines the combining force. Or, if we adopt the atomic theory, or phraseology, then the atoms of bodies which are equivalents to each other in their ordinary chemical action, have equal quantities of electricity naturally associated with them. But I must confess I am jealous of the term *atom*," and ten years later in his paper entitled "A Speculation touching Electric Conduction and the Nature of Matter," he says:—"What do we know of the atom apart from its force? You imagine a nucleus which may be called *a*, and surround it by forces which may be called *m*; to my mind the *a* or nucleus vanishes, and the substance consists in the powers of *m*. And indeed what notion can we form of the nucleus independent of its powers? What thought remains on which to hang the imagination of an *a* independent of the acknowledged forces?"

Thus did Faraday, so early as 1834, set forth the modern doctrine of electrons, and it was in the course of this speculative inquiry that he wrote:—"If the electrical power which holds the elements of a grain of water in combination, or which makes a grain of oxygen, or hydrogen, in the right proportions unite into water when they are made to combine, could be thrown into the condition of a *current* it would exactly equal the amount of current required for the separation of that grain of water into its elements again." This passage, as Professor S. P. Thompson points out, contains the germ of Sir. William Thomson's thermodynamic theory of electro-motive forces which he developed a dozen years later, and long before there was any doctrine of the conservation of energy to guide him.

Time fails us even to catalogue the investigations which he prosecuted during the remainder of this period. His researches upon frictional electricity, induction, conduction, specific inductive capacity and his theory of contiguous particles, are admirably discussed by Tyndall. The results were published in 1837 and he is face to face with the idea of *action at a distance* which bewildered him so that, as Tyndall says, he rebelled "against the limitations of the intellect itself." "He loved to quote Newton upon this point: 'That gravity should be innate, inherent, and essential to matter, so that one body may act upon another at a distance through a vacuum and without the mediation of anything else, by and through which this force may be conveyed from one to another, is to me so great an absurdity, that I believe no man who has in philosophical matters a competent faculty of thinking, can ever fall into it.'" In these researches there is more of speculative reasoning than in most of Faraday's work. "I dare not contend," says Tyndall, "that Faraday in these memoirs has made all his theoretic positions good. But a pure vein of philosophy runs through these writings; while his experiments and reasonings on the forms and phenomena of electrical discharge are of imperishable importance."

The last of these important researches bears date June 1838, and the effect of continuous application was telling upon Faraday's health. He suffered several break-downs and was again troubled by loss of memory. In 1841 his condition was so alarming that he abandoned all work and went with his wife and her brother, George Barnard the artist, to Switzerland. He was depressed, but not irritable, discouraged but not discontented. He

kept a journal and its entries throw much light upon the natural loveliness and extreme simplicity and honesty of his character. An entry dated Interlaken, August 2, 1841, reads:—"Clout nail-making goes on here rather considerably, and is a very neat and pretty operation to observe. I love a smith's shop and anything relating to smithery. *My father was a smith.*" And a few days later he describes a walk of 45 miles which he made in ten and a half hours and says:—"I would gladly give half this strength for as much memory,—but what have I to do with that! Be thankful." And in 1843 writing to Matteucci he says:—"I am much affected by your very kind inquiries after one who feels as if his purpose of life in this world were, as regards the world, passed. My health and spirits are good but my memory is gone."

But by 1844 Faraday had so far recovered that he was again able to take up his work and he now enters upon his third period of activity. His search for a connection between light and electricity now began and in 1846 in a Friday night discourse he said that he was induced to utter a speculation which had been gaining strength in his mind that perhaps those vibrations by which radiant energies, such as light heat, actinic rays, etc., convey their force through space are not mere vibrations of an ether, but of the lines of force which connect different masses, and in another discourse he made the suggestion that we might "perhaps hereafter obtain magnetism from light." In his "Thoughts on Ray Vibrations," published in the *Philosophical Magazine* for May, 1846, "Faraday," says S. P. Thompson in his memoir, "touched the highest point in his scientific writings, and threw out, though in a tentative and fragmentary way, brilliant hints of that which his imagination had perceived as in a vision;—the doctrine now known as the electro-magnetic theory of light." And he points out that at the time when the earlier biographies of Faraday appeared neither that doctrine nor this paper had received the recognition that their importance demanded, and that neither Bence-Jones, Tyndall, nor Gladstone, make proper mention of it. And he quotes much of Faraday's paper and shows how the work of Clerk Maxwell, eighteen years later, was based upon and is confirmatory of it, and from Maxwell's paper of 1864 on a "Dynamical Theory of the Electro-magnetic field," he cites the following passage:—"The conception of the propagation of transverse magnetic disturbances to the exclusion of normal ones is distinctly set forth by Faraday in his 'Thoughts on Ray Vibra-

tions.' The electro-magnetic theory of light, as proposed by him, is the same in substance as that which I have begun to develop in this paper, except that in 1846 there were no data to calculate the velocity of propagation."

These speculations of Faraday's were in part the result of his intuitive perception of the doctrine of the conservation of energy. His communication to the Royal Society of November 6, 1845, opens with this memorable passage:—"I have long held an opinion, almost amounting to conviction, in common I believe with many other lovers of natural knowledge, that the various forms under which the forces of matter are made manifest have one common origin; or, in other words, are so directly related and mutually dependent that they are convertible, as it were, one into another, and possess equivalents of power in their action." And so early as 1834, in the last of a course of lectures on the "Mutual Relation of Electrical and Chemical Phenomena," he said:—"Now consider a little more generally the relation of all these powers. We cannot say that any one is the cause of the others, but only that all are connected and due to one common cause. As to the connection observe the production of any one from another, or the conversion of one into another." And then he gives experiments to show the conversion of one form of energy into another through a long series, and concludes thus:—"This relation is probably still more extended. * * * And even gravitation may perhaps be included. For as the local attraction of chemical affinity becomes attraction at a distance in the form of electricity and magnetism, so gravitation itself may be only another form of the same power." In 1853 Faraday marked these notes with his initials and added:—"Correlation of physical forces." Grove's lecture was in 1842; Faraday's, June 21, 1834.

The most important of Faraday's other work during this third period was on diamagnetism, the discovery of which he announced in 1845. Coulomb had observed in 1802 that magnets act more or less upon all bodies and Brugmann found that certain bodies like bismuth when suspended between the poles of a powerful magnet do not set axially, but equatorially, that is in a line at right angles to that joining the poles. This was supposed to be due to the fact that some bodies were transversely magnetic. Faraday, using a powerful electro-magnet, found that all solids or liquids are either attracted or repelled. His experiments with his heavy glass, a bar of silicated borate of lead, and with a wide range of

other substances, are most interesting and the results obtained by him most important, but we have no time to discuss them, nor to refer to the other investigations which he conducted during this period. It was a period crowded with labors of many kinds, lectures, services rendered the light-house board, correspondence, and experimentation along many and widely differing lines.

A proper consideration of Faraday's personal character and private life would require more time than I can devote to them. His character was so admirable and his personal traits so engaging and endearing as to merit a fuller statement than I can venture upon at this late hour, for while great geniuses appear from time to time above our horizon and dazzle us by their brilliance, and characters so perfect as to seem almost free from any trace of base admixture have been known to many, it is seldom indeed that such transcendent ability and real humility, such nobility and simplicity, are blended in the mind and character of any individual. His religious convictions well illustrate the clearness of his intellectual perceptions and the simplicity of his spiritual beliefs. He seldom discussed them but writing once to a lady he said:—"I am of a very small and despised sect of Christians, known, if known at all, as Sandemanians, and our hope is founded on the faith that is in Christ. But though the natural works of God can never by any possibility come in contradiction with the higher things that belong to our future existence, and must with everything concerning Him ever glorify Him, still I do not think it at all necessary to tie the study of the natural sciences and religion together, and, in my intercourse with my fellow-creatures, that which is religious and that which is philosophical have ever been two distinct things." In this simple and child-like faith he lived happily and in it he serenely died.

Faraday was married in 1821 to Sarah, daughter of a Mr. Barnard, a silversmith and elder in the Sandemanian church, and the marriage though childless was in all respects a happy one. Early in his career, as he told Tyndall, he was forced to ask himself whether he should make wealth or science the pursuit of his life, and he chose the latter. In modest apartments in the Royal Institution he lived on his small salary, and, from 1835, in receipt of a pension of three hundred pounds a year from government, until 1858 when the Queen, at the suggestion of Prince Albert, placed at his disposal a comfortable house on the green at Hampton Court to which he removed and in which in 1867

he died. During his long life he was the recipient of almost all honors but one which could be bestowed upon him at home or abroad, but when urged by Tyndall to accept this,—the presidency of the Royal Society, he replied:—"No Tyndall, I must remain plain Michael Faraday to the last."

It is somewhat remarkable that Faraday had no assistants and left no successor. Tyndall, though sometimes referred to as his follower was neither his pupil nor successor, but from 1853 was his associate as Professor of Physics at the Royal Institution. It was his habit to work alone and aside from Sergeant Anderson, who came to him as servant from the Royal Artillery, and who served him with intelligent fidelity until his death in 1866, he had no assistant or associate during the long years through which his researches extended. This was due to no narrowness on his part or lack of sympathy with other workers but was the result of a natural idiosyncrasy. In 1860 writing to Becker he says:—"I was never able to make a fact my own without seeing it. * * * For the same reason, I never could work, as some professors do most extensively, by students or pupils. All the work had to be my own." But from such a statement we must not infer that he was lacking in what may be termed the scientific imagination for such an assumption would be the furthest possible remove from the truth. In writing to Schoenbein in 1845 and referring to the relation between magnetism and light which he thinks he has established, he says:—"You can hardly imagine how I am struggling to exert my poetical ideas just now for the discovery of analogies and remote figures respecting the earth, sun and all sorts of things, for I think that is the true way, corrected by judgment, to work out a discovery." He had no sympathy with those who feel perfection to be out of their reach, and little patience with mediocrity. To Miss Moore he wrote:—"I have often endeavored to discover a genius, but have not been very successful." "The world," says Gladstone, "would doubtless have been the gainer if he had stamped his own image on the minds of a group of disciples; but a man cannot do everything; and had Faraday been more of a teacher he would perhaps have been less of an investigator."

For the same reason that Faraday abandoned all private professional engagements did he refuse not only to patent any of his discoveries but even to follow them up with a view to render them practically serviceable. After his discovery of magneto-

electric induction he carried his researches up to the point of constructing experimental machines but resolutely put such work aside, saying:—"I have rather been desirous of discovering new facts and new relations dependent on magneto-electric induction than of exalting the force of those already obtained; being assured that the latter would find their full development hereafter." Professor Gladstone relates that Cyrus W. Field told him of an interview with Faraday near the time of the commencement of his great enterprise. Faraday doubted the possibility of sending a message across the Atlantic and Field urged him to make some experiments and offered to compensate him for his services. Faraday worked at some of the problems for a time, declining all remuneration, and said to Field, "It can be done, but you will not get an instantaneous message." "How long will it take," said Field? "Well, perhaps a second," was the reply. "That's quick enough for me," said Field and went away encouraged. With the invention of the telegraph Faraday's work was not immediately connected. Arago and Davy had independently noted in 1820 and 1821 respectively that an electric current produced magnetism in soft iron and steel, and the first electro-magnets seem to have been constructed on this principle by Sturgeon and Brewster, by Moll in Germany, and by Henry and Ten Eyck in Albany, but Faraday's discovery that an induced current is produced by passing a magnet through a helix of wire forming part of a closed circuit was seized upon by Gauss and Weber and at the request of the former the idea was further elaborated and perfected by Steinheil for telegraphic purposes but soon replaced by other contrivances. But Faraday's work which led to the dynamo, and paved the way for electric lighting and the distribution of electrical energy, brought him no pecuniary reward, nor did he look for any. In one of his lectures at the Royal Institution in 1848, speaking of the consumption of zinc in the battery he said:—"And this gives one a strange sensation as to what may be going on in a gas-flame or a fire," and he hopes that, "some day we may transfer their light and heat and all their other powers to a distance, and use them at pleasure, laying on, not gas, but the powers of the gas or oil, and so having a lamp more powerful than Aladdin's."

With the advance of age Faraday's powers gradually failed. From an early period he had suffered from a defective memory and this infirmity increased. He wrote to Schoenbein in 1840,

"but the memory goes," and in 1848, "I feel as if every paper I write must be the last," and again, in 1851, pathetically, "I have no doubt I answer your letters very badly, but, my dear friend, *do you remember that I forget* and that I can no more help it than a sieve can help the water running out of it." Yet how marvelous were his accomplishments! Tyndall speaks of the "burst of power" which had filled the years from 1831 to 1835, with an amount of experimental work "unparalleled in the history of science," and Bence-Jones, surveying his "Researches," papers in the "Philosophical Transactions," and manuscripts, says that its quantity is so vast "that it seems impossible one man could have done so much." And yet his modesty was such that writing to Schoenbein and speaking of an investigation in 1857 he said:—"If it leads me to the discovery of some interesting facts I shall not feel ashamed of it, though it may turn out to be fallacious. We are no gods, but short-sighted men and must be content with finding out a little bit of truth in wading through a sea of errors."

In 1859 he writes to a niece:—"My worldly faculties are slipping away day by day. Happy is it for all of us that the true good lies not in them." In 1862 he investigated again the action of magnetic poles upon light and this was his last research. His last juvenile lectures, on the "Chemical History of a Candle," were given at Christmas 1860, and in October 1861 he resigned his professorship. On June 20, 1862, he gave his last public lecture at the Institution on Siemen's Gas Furnaces and at the end of his brief notes for this lecture is the word, "retire." The occasion was a sad one, for he burned his notes by accident, became confused, and the failure of his great mind was apparent. For two years longer he continued his work for Trinity House on the electric illumination of light houses, but these duties he resigned, in 1865, to Tyndall. In 1864 he resigned his eldership in the Sandemanian church, and in March, 1865, he resigned his position as Superintendent of the house and laboratories of the Royal Institution which he had retained when he resigned his professorship in 1861, though he continued to attend the Friday evening meetings. Through the winter of 1865-66 he became very feeble but continued to take an interest in affairs and particularly in Wilde's new magneto-electric machine, and the last exhibition he gave of interest in any scientific matter was on viewing the long spark of a Holtz machine. In the spring of 1867 he failed rapidly

despite the loving attentions of his wife and niece. Sitting in his chair he died peacefully, August 25, 1867. "There was," says Professor Gladstone, "a philosopher less on earth, and a saint more in heaven." In accordance with his expressed wishes, and in conformity to the customs of the religious body to which he belonged, his remains were buried in silence, in the simplest manner, and in the presence of but a few personal friends. A simple stone in Highgate cemetery gives name, and date of birth and death. "Taking him for all in all, I think it will be conceded," says Tyndall, "that Michael Faraday was the greatest experimental philosopher the world has ever seen; and I will add the opinion, that the progress of future research will tend, not to dim or to diminish, but to enhance and glorify the labors of this mighty investigator."

So far are we separated in time from many men whom we call great that they seem to us insubstantial and unreal, and we feel that their mighty prowess may be a kind of glamour that the light of past ages, filtering to us through many mediums, may perhaps have magnified, or unduly exalted, but we are near enough to this great man rightly to estimate his worth and place him in the temple of fame which the world consecrates to those who, by high intellectual accomplishments and nobility of character have shed undying lustre upon the history of mankind.

Editorial

An advertisement in the *Public Advertiser* of 1776 affords an amusing illustration of the close association of master and servants' interests in the eighteenth century, as well, perhaps, as the complex attainments required in a "general" of the period. It runs as follows:

"Wanted for a family who have bad health a sober, steady person in the capacity of doctor, surgeon, and apothecary. He must occasionally act in the capacity of butler and dress hair and wigs. He will be required to read prayers occasionally and to preach a sermon every Sunday. The reason of this advertisement is that the family cannot any longer afford the expense of the physical tribe, and wish to be at a certain expense for their bodies and souls. A good salary will be given."

The Graphic, March 12, 1910.

The achievements of this admirable charity for the last year fully sustain its reputation as the most widely reaching organization for the assistance of the suffering and needy in the city of Albany. Indeed, it may be questioned whether any more effective system of charity exists anywhere. Perhaps the best established fact resulting from the exact medicine of the last decade has been the emphasis upon the separation of diseases into the two classes of local and constitutional affections, the former largely surgical, the latter comprehending the important principle of systemic involvement. It is now understood that concern for the general vitality is more necessary in general medical practice than routine treatment of this or that disease. Hence arises the need of skilled nursing, and skilled nursing implies the conservation or restoration of all the processes and functions concerned in the normal activities of the body. The disturbance of these functions is the cause or effect of disease, and to wrong-living, ignorance, privation, stress are to be attributed much of the suffering to which humanity is subjected. The more general recognition and acceptance of the hospital in late years and the extension of the work done by the hospital have proved a great benefit, but the hospital is principally engaged in meeting the crises brought about by acute disease. It accomplishes little or nothing in correction of the errors through which the disease was brought about. These are found only in the home. Here is a large field of investigation and opportunity, and this is the field covered in Albany by the Guild. This corporation began its work in answer to the demand for nurses among people who had not the means to employ them. The absurdity of attempting to restore health by the administration of drugs when proper food, fresh air, bathing and other necessities of life were needed, had become manifest, and the charitably inclined ladies of Albany met this want by organizing a relief society. Nurses were sent to the poor free of cost to them, and to others who could pay a moderate fee. The presence of these nurses in the home soon revealed another source of possible activities, and observations were recorded of the errors of living predisposing to disease. These opportunities for further benevo-

lence were brought to the attention of the Guild, and, with characteristic spirit, the greater field of "social service" was at once undertaken. The Guild not only meets every call of sickness, but to every home its nurses enter, carries instruction and advice for the prevention of sickness. To enumerate the details of this activity is almost superfluous, but the enormous amount of disease to be anticipated by the proper rearing and nourishment of infants, by the preparation of food, by ventilation and cleanliness, at once comes to mind.

Some appreciation of the obligations assumed by the Guild may be derived from the enumeration of its departments: that for providing nurses for persons of limited means; the dental department; the diet kitchen; the special obstetrical department; the tuberculosis department; the social service department, including a committee for the visitation of patients discharged from hospitals; the department for training nurses.

During the year ending January 31, 1910, the Guild employed eight graduated trained nurses, and gave instruction to twelve pupil nurses. This instruction was practical, consisting of attendance upon the sick under the supervision of the hospital graduate staff, this being supplemented by didactic lectures by physicians. As a result of this system there are now in Albany eight nurses trained by the Guild, authorized by its certificate to receive compensation varying from sixteen to twenty dollars a week. The diet kitchen staff consists of three dietitians who both give instruction to the pupils and provide special foods to be purchased. The number of visits made by nurses in the year was 19,621, the total number of new cases being 1,776, 110 physicians seeking this aid. Of these patients, 984 were charity cases.

In conclusion attention may be directed to the annual report of the Guild. This is a volume of eighty pages, arranged systematically to show the activities of the different departments. As a suggestive and practical document it should be in the hands of all who are concerned with the proper giving of help. Not the least of the virtues of the Guild is the discrimination which forestalls abuse of charity. Its benefits are wisely and economically administered. This alone should appeal to its contributors, and these may confidently continue numerous and liberal.

Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF HEALTH, ALBANY, N. Y.
ABSTRACT OF VITAL STATISTICS, JUNE, 1910.*Deaths, June, 1910.*

Consumption.....	22
Typhoid fever.....	1
Scarlet fever.....	2
Measles.....	1
Whooping-cough.....	0
Diphtheria and croup.....	1
Grippe.....	0
Diarrheal diseases.....	8
Pneumonia.....	10
Broncho-pneumonia.....	1
Bright's disease.....	14
Apoplexy.....	4
Cancer.....	6
Accidents and violence.....	9
Deaths over 70 years.....	15
Deaths under one year.....	20
<hr/>	
Total deaths.....	128
Death rate.....	15.56
Death rate less non-residents.....	13.37

*Deaths in Institutions.**June, 1910.*

	Resident	Non-resident
Albany Hospital.....	7	7
County House, , , , ,.....	1	2
Homeopathic Hospital.....	5	4
Home for Friendless.....	1	0
Hospital for Incurables.....	1	0
Little Sisters of the Poor.....	1	0
Public Places.....	4	1
St. Margaret's House, , , , ,.....	2	1
St. Peter's Hospital.....	3	3
Austin Maternity Hospital.....	3	0
Albany Hospital, Tuberculosis Pavilion.....	2	0
Pavilion of Labor.....	1	0
<hr/>		
Totals.....	31	18
Births.....		118
Still births.....		7

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

In the Bureau of Plumbing, Drainage and Ventilation, there were three hundred six inspections made of which one hundred sixty-six were of old houses and one hundred forty were of new houses. There were seventy-eight drains laid, fifty-five connections to street sewers, fifty-nine tile drains, six urinals, ninety cesspools, one hundred twenty-four wash basins, one hundred fifty-nine sinks, one hundred nine bath tubs, one hundred fourteen wash trays, one trap hopper, one hundred eighty-five tank closets and three slop hoppers. There were one hundred eighty-five permits issued of which one hundred twenty-two were for plumbing and sixty-three for building purposes. There were seventy plans submitted of which twenty-six were for old buildings and forty-four for new buildings. Three houses were tested, two with blue or red and one with peppermint. There were thirty-one water tests. Thirty-six houses were examined on complaint and one hundred four were re-examined. Ten complaints were found to be valid and twenty-six without cause.

BUREAU OF CONTAGIOUS DISEASE.

Cases Reported, June, 1910.

Typhoid fever.....	1
Scarlet fever.....	15
Diphtheria and croup.....	20
Chickenpox.....	8
Measles.....	17
Whooping cough.....	0
Consumption.....	28
Total	89

Contagious Diseases in Relation to Public Schools.

	Reported		Deaths	
	D.	S.F.	D.	S.F.
Public School No. 2.....	..	1	..	..
Public School No. 7.....	1	..	..	..
Public School No. 11.....	1	3	..	..
Public School No. 21.....	1	..	..	..
Public School No. 22.....	1	..	..	..
St. Joseph's School.....	1	..	..	..
St. Mary's School.....	1	..	..	..
Our Lady of Angels School.....	1	..	..	..
Number of days quarantine for diphtheria:				
Longest..... 27	Shortest..... 4	Average.. 14 2-16		
Number of days quarantine for scarlet fever:				
Longest..... 48	Shortest..... 12	Average.. 25 9-10		
Fumigations:				
Houses..... 48	Rooms.....	212		

Cases of diphtheria reported.....	20
Cases of diphtheria in which antitoxin was used.....	18
Cases of diphtheria in which antitoxin was not used.....	2
Deaths after use of antitoxin.....	1

BENDER LABORATORY REPORT ON TUBERCULOSIS

Positive.....	24
Negative.....	29
Failed.....	13
Total.....	66

TUBERCULOSIS

Living cases on record June, 1910.....	444
Reported during June, 1910:	
By telephone.....	0
By Bender.....	0
By card.....	39
Dead cases reported by certificate.....	39
	11
	50
	494
Dead cases previously reported.....	9
Dead cases not previously reported.....	11
Duplicates.....	10
Recovered.....	6
Removed.....	14
Unaccounted for.....	33
Died out of town and no record.....	42
	125
Living cases on record July 1, 1910.....	369
Total tuberculosis death certificates filed June, 1910.....	20

BUREAU OF PATHOLOGY.

Bender Laboratory Report on Diphtheria.

Initial positive.....	18
Initial negative.....	76
Release positive.....	19
Release negative.....	40
Failed.....	4
Total.....	157
Tests of sputum for tuberculosis:	
Initial positive.....	25
Initial negative.....	25

BUREAU OF MARKETS.

Market re-inspections.....	131
Public market inspections.....	19
Fish markets inspected.....	7
Rendering establishments inspected.....	1
Pork packing houses inspected.....	4

MISCELLANEOUS.

Mercantile certificates issued to children.....	63
Factory certificates issued to children	54
Children's birth records on file.....	117
Number of complaints of nuisances	52
Privy vaults.....	5
Plumbing.....	20
Other miscellaneous complaints.....	27
Total number of dead animals removed.....	1448
Cases assigned to health physicians.....	87
Number of calls made.....	279

Society Proceedings

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

A special meeting of the Medical Society of the County of Albany was held December 16, 1909, at the Albany Medical College, to take action on the death of Dr. John L. Cooper, of Albany.

The President, Dr. MACFARLANE, announced that for the second time this year the Society was called upon to pay its last tribute of respect to a member of the Society.

Dr. JOHN L. COOPER was born in 1857; in 1877 he was graduated from the College of Physicians and Surgeons, in New York, in 1886 he became a member of this Society and died December 12, 1909.

The President appointed as a committee to present memorial resolutions Drs. Babcock, Blatner and Ward.

Dr. WARD said he did not know Dr. Cooper very well before his last illness, but during that trying time he had opportunity to appreciate his sterling worth and admirable character.

Dr. MACFARLANE spoke of Dr. Cooper's retiring disposition, of the respect in which he was held by his patients. His love for his home and his duties as a family physician and adviser were with him marked characteristics.

Dr. BABCOCK said, Dr. John L. Cooper, died last Sunday morning, December 12th, at his home on Clinton Avenue. A large majority of the practitioners of Albany are graduates of our local Medical College, but Dr. Cooper graduated from the University of Pennsylvania, settled in Albany and married Miss Wallace of this city. Not acquainted with as many physicians of our city as a graduate of our college would be, not especially active in our Medical Society, he did not become intimate with a

large number of our physicians, but those who knew him and met him frequently either on the street, in the sick room, or at the lodge appreciated his modesty, honesty and good fellowship.

I have known Dr. Cooper for several years, have attended his families when he was on vacations, have examined applicants for increased amounts and always on entering the houses the first question asked was, "Where is Dr. Cooper, is he ill?" His families appreciated him; his friends were strongly attached to him, the agents of the Prudential Insurance Company, for which he examined for over twenty years, admitted his rejections were proper and that he was not antagonistic to their interests. The medical directors of the company had perfect confidence in him. Being a man of such sterling character and ability, affectionate to his family and true to his friends—we would suggest the following resolutions:

WHEREAS, This Society has received with deep sorrow the announcement of the death of Dr. John L. Cooper, in the vigor and prime of manhood and his professional career,

Resolved, That we recognize in Dr. Cooper a conscientious physician, a faithful friend, and to those with whom he was intimate his death a personal loss and bereavement.

Resolved, That we extend to the bereaved family our heartfelt sympathy and that a copy of these resolutions be sent to the family and also published in the MEDICAL ANNALS.

On motion of Dr. Ward the resolutions were accepted and adopted as embodying the sentiments of the members.

The meeting then adjourned.

ANDREW MACFARLANE,
President.

JOSEPH A. LANAHAN,
Secretary.

A regular meeting of the Medical Society of the County of Albany was held at the Bender Laboratory January 19, 1910. The meeting was called to order at 8.30 p. m., Dr. MACFARLANE presiding. The following members were present: Drs. MacFarlane, Lanahan, Ward, Curtis, Blatner, Case, C. H. Moore, Hacker, J. L. Bendell, L. Archambault, J. N. Vander Veer, McKenna, Classen, Papen, Jr., Fromm, Craig, Harrig, Griffen, Reynolds, Draper, Gutmann, A. J. Bedell, Conway, Winne, Harper, O'Leary, Jr., Smelzer, Laird.

The minutes of the previous meeting were read and approved.

The Board of Censors reported favorably on the applications of Morris Ballin, Clarence E. Carruth, Charles E. Collins, William E. Curtin, Thomas E. Deveny, Henry B. Gillan, Paul T. Harper, Thomas Helme, Frank H. Hurst, Fred M. Manly, Julia G. McNutt, Welton B. Sabey, Baxter T. Smelzer.

Dr. CRAIG moved that the Secretary cast one ballot for the applicants named. Motion was carried, the Secretary cast the ballot, and the applicants named were declared elected to membership.

The Board of Censors reported that they had received applications from Dr. Albert Mott, a member of the Albany County Homeopathic Society, and Dr. Clarence E. White, a graduate of the Homeopathic Department of University of Michigan. The Board of Censors reported favorably on their applications. The several members who discussed the question spoke favorably of their admission.

Dr. WARD moved the Secretary be directed to cast a ballot for the applicants named. The motion was carried, the Secretary cast the ballot and Drs. Mott and White were declared elected to membership.

Dr. HACKER called attention to a circular issued by the Board of Health:

Dear Doctor.—I desire to call your attention to several changes in the laws relating to the collection of vital statistics.

A law recently enacted requires that all physicians shall file with the local Bureau of Health certificates of death of patients dying in their service within twenty-four hours after such death.

Another law recently enacted requires the report of all births to the local Bureau of Health within thirty-six hours after such birth.

Both the certificates of birth and death must be completely filled in and all information desired made complete so far as is known.

The Bureau of Health is prepared to furnish boxes containing a solution of nitrate of silver for instilling in the eyes of new-born children, in the discretion of the physician. Such packages contain a sterile solution of nitrate of silver and a sterile dropper and the necessary instructions. These packages will be furnished to physicians without cost on request.

With the new year an endeavor will be made to secure more thorough control of cases of tuberculosis.

Sputum boxes, paper containers and napkins will be furnished within the limit of the appropriation. Notice of removal of tuberculosis patients is requested as well as the prompt report of all new cases.

Your co-operation is requested in the prompt and complete report of deaths and births and in the efforts being made to check as far as possible the spread of tuberculosis.

Yours respectfully,

WILLIAM G. VAN ZANDT,
Registrar Vital Statistics.

He said physicians had found the custom now prevailing in regard to the filing of birth and death certificates to work very well, the changes required would make filing more difficult, and he asked the opinion of the Society in regard to the circular.

The President referred the question to the Health Officer, Dr. Craig.

Dr. CRAIG said, I am frank to say I do not know anything about the issuance of the circular, it was sent out by the officer charged with the collection of Vital Statistics, and is evidently intended to call the attention of physicians to the new requirements. The law was passed last winter with the sanction of the State Society.

Dr. CASE said, that observance of the law was practically impossible

in the country. Oftentimes the patient is in an adjoining town and the certificate cannot be filed within twenty-four hours. Again the Town Clerk may be in Albany and the Health Officer fifteen miles away. It takes twenty-four hours to make out the required report without practice. Would like to see the Legislature pass a law that would not take up so much time to observe.

Dr. CRAIG said the best way to cause the repeal of an obnoxious law was by strictly observing it, then at the next Legislature steps would be taken to remove its obnoxious features. With regard to the use of nitrate of silver, that section was added at the instance of the Society for the Prevention of Blindness, and physicians are advised to use nitrate of silver within thirty-six hours of birth.

Dr. HACKER said that many times the name is changed within eight days, and then the certificate is of no value. Ophthalmia Neonatorum is not so common as it was formerly, and is more common among midwives than in the practice of physicians. The practice of midwives should be regulated.

Dr. CRAIG said that in that case the law requires that the name should be returned on a separate slip by the parents. On the new birth certificate a new question is asked, "Did you instill nitrate of silver," and then, "Why not?" He had asked the State Board of Health what should be done if the question were not answered. Some men had taken offense at them as impertinent questions, and he believed the matter was worthy the serious consideration of the members.

Dr. HACKER moved that the matter be referred to the Committee on Legislation and the Delegates to the State Society, that they should investigate and if they considered it proper bring it before the State Society at its next meeting.

Dr. WARD said he would be glad to bring it before the State Society. Personally he had little experience with Ophthalmia Neonatorum; he had seen over 600 confinements, had never used nitrate of silver and had had no ophthalmia neonatorum.

Dr. CURTIS said he held no brief for the State Board of Health but he believed so far as the use of nitrate of silver was concerned, the requirement of the law should be followed. No harm comes from its proper use, and it has been shown to prevent blindness in the new born.

The motion of Dr. Hacker was then carried.

SCIENTIFIC PROGRAM

Dr. CHRISTIAN G. HACKER read a paper on "Unusual Vision in an Epileptic."

Dr. H. JUDSON LIPES read a paper on "Hirschsprung's Disease,—Congenital Giant Colon—with report of case and stereopticon demonstrations."

Dr. THOMAS ORDWAY demonstrated the recent methods of diagnosis of typhoid fever.

Dr. HARRY BERNSTEIN demonstrated the Wasserman serum reaction in syphilis and the Noguchi modification.

Dr. EDWARD J. RILEY demonstrated a number of pathological specimens.

Dr. JAMES N. VANDER VEER presented a Lithopedium thirty-five years old.

Dr. HACKER's paper was discussed by Drs. C. H. Moore, Ward and Hacker.

The meeting adjourned at 11 p. m.

ANDREW MACFARLANE,
President.

JOSEPH A. LANAHAN,
Secretary.

A regular meeting of the Medical Society of the County of Albany was held at the Albany Historical and Art Society February 23, 1910. The meeting was called to order at 8.45 p. m., Dr. MACFARLANE presiding. The following members were present: Drs. Ward, MacFarlane, Moston, McKenna, Page, Bingham, Lempe, Stillman, Curtis, Blatner, Blessing, Boyd, Lomax, Griffen, MacHarg, Sheldon, Goewey, Traver, De Voe, Doescher, Draper, Ryan, Cronin, Fromm, C. H. Moore, Craig, Donhauser, Ullman, Shaw, Winne, Morrow, Papen, Jr., Van Slyke, Smelzer, A. J. Bedell, Douglas, Lanahan, Hinman, Holding, Cox, Gutmann, J. N. Vander Veer, Corning, Conway, Laird, Rooney, O'Leary, O'Brien, Rulison.

Minutes of the last meeting read and approved.

The Board of Censors reported favorably on the application of Burlin G. McKillip. Dr. Ward moved that the Secretary be directed to cast a ballot for Dr. McKillip. The motion was carried, the Secretary cast the ballot and Dr. McKillip was declared elected to membership.

SCIENTIFIC PROGRAM

The Diagnosis of Diseases of the Kidney, Symposium presented by the Clinical Club.

Papers were read by Drs. Corning, Conway, Rooney, Holding and Cox, embodying the work done by the members of the Club and representing the following papers:

<i>Historical Review,</i>	ERASTUS CORNING, M. D.
<i>Anatomy and Physiology,</i>	FRED C. CONWAY, M. D.
<i>Pathological Anatomy and Bacteriology,</i>	ARTHUR T. LAIRD, M. D.
<i>Clinical Pathology,</i>	JAMES F. ROONEY, M. D.
<i>Anamnesis and Physical Examination,</i>	D. V. O'LEARY, JR., M. D.
<i>Nephritis,</i>	JOSEPH P. O'BRIEN, M. D.
<i>Diseases of the Kidney in Children,</i>	HARRY RULISON, M. D.
<i>Co-relation of Nephritis and Other Diseases,</i>	MALCOLM DOUGLAS, M. D.
<i>Ocular Changes in Nephritis,</i>	ARTHUR J. BEDELL, M. D.
<i>Dermatology,</i>	JOSEPH A. LANAHAN, M. D.
<i>Manifestations in Upper Respiratory Tract,</i>	EUGENE E. HINMAN, M. D.
<i>Skiagraphy,</i>	ARTHUR HOLDING, M. D.
<i>Abnormalities, Displacements, etc.,</i>	JOSEPH A. COX, M. D.
<i>Infections and Stone,</i>	JOHN H. GUTMANN, M. D.
<i>Mechanical Methods,</i>	JAMES N. VANDER VEER, M. D.

In an adjoining room were exhibited a complete collection of instruments used in the diagnosis of kidney conditions, a complete uranalysis laboratory outfit, a series of pathological specimens, a collection of skiagraphic plates, a small working library on the kidney, and a number of plates, diagrams and charts.

At the close of the symposium Dr. CURTIS expressed his pleasure at the interesting work presented and moved a vote of thanks to the Clinical Club. Motion carried.

Dr. MACFARLANE also spoke his appreciation, complimenting the Club on the thorough manner in which they had presented the subject.

The meeting adjourned at 11 p. m.

ANDREW MACFARLANE,
President.

JOSEPH A. LANAHAN,
Secretary.

A regular meeting of the Medical Society of the County of Albany was held at the Albany Medical College, Wednesday evening, March 24, 1910. Meeting was called to order at 8.45 p. m., by the Vice-President, Dr. TRAVER.

Minutes of the last meeting read and adopted.

Board of Censors reported favorably on the applications of Drs. Edward M. Bell and Arthur A. Vibbard. Motion made and carried that the Secretary be directed to cast a ballot for Drs. Bell and Vibbard. The Secretary cast the ballot and Drs. Bell and Vibbard were declared elected to membership.

The following letter was read:

FEB. 7, 1910.

Albany County Medical Society:

DEAR BRETHREN.—The management of Pavilion F, at the Albany Hospital is so strikingly peculiar that it seems wise that some measures should be taken to protect the feeble-minded and insane who may be placed there.

The management does not allow a great specialist of note to treat a patient there, but insists that the patient be under the absolute care of a physician appointed by the management to care for all the patients of the Pavilion.

Only yesterday I wished to move a patient from one of the other wards of the hospital, to Pavilion F, this patient is receiving the treatment suggested by the most prominent alienist in Albany, who has been the consultant in the case. I could not have my patient placed in F unless I consented to throw aside our specialist and take the treatment for my patient which might be suggested by the management's physician.

If my patient is to have the care of our specialist, then the patient must be moved to another place, and as it is to-day ten degrees below zero it makes it a genuine hardship to move my patient away from the very door of Pavilion F, because I will not consent to have my patient treated by the management's physician instead of a noted specialist.

The relatives of the insane always desire the best alienists, and yet we are not permitted to have the use of Pavilion F if we are employing such men as Dr. Pilgrim, or Dr. McDonald or Dr. Peterson, or our no less distinguished alienist, Dr. Hun, in other words the really prominent men are not allowed to treat a patient in Pavilion F, but must surrender their patients to the mercy of the local management. True, we may call a New York specialist in consultation to see a patient in Pavilion F, but the moment the door has closed behind him the patient is at the mercy of the management's appointee.

It seems foolish to spend thousands in constructing and maintaining a Pavilion, with light, heat, and servants for the special use of one man, when we have so many noted specialists within call, and it looks cruel to have the patients turned away from the hospital in inclement weather because they are not willing to be treated by the management's appointee.

Again, I can not see what right the management has to place a physician over my patient against my will, against my patient's will, and against the protests of the patient's family, and when the patient is dead, or taken to Poughkeepsie, a bill comes from the man appointed by the hospital management as Guardian Angel over Pavilion F, and the bill seems to the friends as totally unnecessary, as wasteful and extravagant.

They are willing to pay for the services of our alienist, and are willing to pay the hospital's fees, fully and freely, but they are not willing to pay to a man they have never heard of, an exorbitant fee for attending a patient they did not wish to have him attend. What hinders the local appointee from keeping a patient for weeks in Pavilion F? Will not the fees be larger, the longer the patient is kept?

I regret that the management of the Albany Hospital regards the medical men of the city as incompetent to treat cases of delirium, or insanity even with the advice and consultation of the country's best specialists, and insists on displacing the family physician and the specialist, with an appointee of their own.

I believe any family physician will do his utmost for one of his families, and I have faith in our specialists, and by neither of these nor by both of them combined will the patient's finances suffer so pitifully as they will under the guiding hand of a hospital appointee who has absolute control over the patients, with power to retain them as long as he will.

I entirely fail to comprehend how the wealthy people of Albany can be prevailed upon to give up their money to a management which spends thousands for the use of one man, and when a member of their own family needs the care of Pavilion F, and the attention of both the family physician, and the country's best specialist, then all are shut out, and the patient is shut out with them, unless they are willing to throw aside the services of their specialist and their own friend—the family doctor.

All this is no doubt done on the assumption that the family doctor or the specialist might charge the patient a fee, but if these men, friends of the family, charge, then how can it be proven that the hospital's appointee will not make more extravagant charges, from a patient, he cares nothing about?

Persons who have had relatives in Pavilion F can make convincing statements as to the strenuousness of the bills for medical attendants.

The hospital's appointee states that on this day there are 20 cases under his care in Pavilion F. Now, if each of these unfortunates is charged but \$5 per call, the fees for the morning would be \$100. This looks like a sinecure more desirable than the \$50 a day Water Commissionership of New York City.

I trust that for the sake of the good name of the Albany Hospital, and the honor of the medical profession in the city of Albany, this mismanagement of Pavilion F will be corrected.

I leave the matter to your wisdom.

I am respectfully,

SAMUEL D. MILLER,

Class of 1900, Albany Medical College.

Dr. JENKINS moved that the letter be placed on the table.

Dr. HACKER said a committee ought to be appointed to confer with the hospital authorities. That the present method was taxation without representation. The matter ought to be brought to the attention of the Supervisors. Dr. Hacker moved that the chair appoint a committee to confer with the Board of Supervisors.

Dr. JENKINS said the matter was thrashed out before and its reconsideration would simply make trouble. Pavilion F is in good order and the Board of Governors had said it was to the disadvantage of patients to have many physicians.

Dr. BLATNER said he had no trouble to see patients. There had been no discourtesy shown him and he had no fault to find. He had not had any private patients in F.

Dr. TRAVER said matter had been thrashed out and nothing would be accomplished unless the Board of Supervisors might be interested. Suggested that the matter be laid on the table. Dr. Hacker's motion was put and carried.

Letter from the State Society read:

FEBRUARY 21, 1910.

Dr. J. A. Lanahan, Secretary, Medical Society of the County of Albany:

My dear DOCTOR.—At the last meeting of the Medical Society of the State of New York the House of Delegates took the following action which was unanimously adopted:

Resolved, That a committee consisting of the Presidents of the Medical Society of the State of New York, and of the recent New York State Medical Association be and hereby is appointed to consider and carry into effect a celebration to be given in honor of Dr. Abraham Jacobi on his 80th birthday.

In order that this celebration may be available to all members of the Society and oppressive to none, it is decided to give Dr. Jacobi a reception at the New York Academy of Medicine on Friday evening, May 6, 1910, and to present him with a substantial testimonial of appreciation.

Believing that each member of the Society will be delighted to co-operate in this purpose, thus testifying to his appreciation of, and affec-

tion for a noble character, it is proposed that each member be requested as an earnest of his willingness and desire, to subscribe one dollar to the cause and to be present on the occasion. Therefore you will kindly take the matter up at once with the members of your County Society and report promptly to the Committee of Arrangements, as it must have, at an early date, a knowledge of the fund which will be at its disposal.

Personal invitations will be issued in due time.

Respectfully submitted,

CHAS. JEWETT,

Chairman.

A. T. BRISTOW,

JOSEPH D. BRYANT,

J. RIDDLE GOFFE,

Secretary.

Committee of Arrangements.

Dr. CORNING speaking for Dr. Ward, who was out of town, said. Dr. Ward had been in communication with Dr. Bryant, asking in reference to the form the memorial would take and how the money would be sent. That Dr. Bryant had replied the intention was to have cast a bronze bust of Dr. Jacobi, and that contributions should be sent through the County Treasurer. Dr. Ward urged the members to respond to the request for in honoring Dr. Jacobi the Society would do itself honor.

Dr. CURTIS: I should like to add a word. I feel like urging the Society for Dr. Jacobi has done much for us, and this little expression of our feeling should be made to reach every member.

Dr. MACFARLANE said he felt in contributing to the Jacobi fund the Society was honoring itself. In this country there is little talk about the great men in Medicine. We have had the pleasure of having him among us on several occasions and we should show our recognition of the services he has done for the State and County Society.

Letter from Dr. WARD, State Delegate, read.

FEBRUARY 20, 1910.

Dr. Joseph A. Lanahan, Secretary, Albany County Medical Society:

My dear DOCTOR.—At a meeting of the Albany County Medical Society held at the Bender Laboratory in January last, the delegates to the State Society were instructed to endeavor to secure a change in the general by-laws, permitting Directors of Laboratories, Medical Superintendents of Hospitals, etc., to become members of the County Society.

At a meeting of the House of Delegates, on the evening of January 24th, this matter was brought up and we were informed, that it was not a matter for the Society to take up, inasmuch as there is nothing in the by-laws of the Society touching upon this matter. We were not informed precisely how the matter could be remedied, but it was certainly not through the House of Delegates of the State Society.

Very truly yours,

SAMUEL B. WARD,

Delegate to State Society.

SCIENTIFIC PROGRAM

"Fractures of the Lower Jaw," LeRoy S. Blatner, D. D. S.

"High Frequency," W. G. Lewi, M. D.; E. McD. Stanton, M. D. of Schenectady.

Dr. Lewi's paper was discussed by Drs. Holding, J. N. Vander Veer, and Bernstein.

Dr. Stanton's paper was discussed by Drs. Gutmann, Beilby, and Hacker.

In closing the discussion, Dr. STANTON said:

The discussion this evening has had to do largely with the pros and cons of immediate or delayed operation during certain stages of appendicitis. Personally I am a very firm believer in the Ochsner method of treatment for cases seen during the intermediate stages of the peritoneal infection. The recent extensive statistics of Rotter for Berlin and Minningham in this country as well as the statistics of the individual operators, all show a death rate of approximately 18 per cent. for cases operated during the intermediate stage of the peritoneal involvement and I can not conceive of 18 per cent. of these cases dying if handled according to the method of Ochsner and, as a matter of fact, those who follow this method do not have such a high death rate.

What I wanted especially to emphasize to-night, however, was the importance of applying the principle of peritoneal rest in all cases whether we operate early or late. This is the point which I wish to impress upon the general practitioner who first sees the case.

The general practitioner can not always get the consent of the patient for an immediate operation, but he can see to it, that the peritoneal infection is not spread to a hopeless extent while he is making his diagnosis or obtaining the consent of the patient for operation. The English learned this lesson very thoroughly in connection with gun shot wounds of the intestine during the Boer War, and in civil practice, if we can only teach the general practitioner the dangers of cathartics and even of food by mouth in suspected cases of acute intraperitoneal infection, the surgeon will see very few cases of severe diffuse peritoneal involvement. In Schenectady, the general practitioners have almost all of them learned this lesson, and as a result the cases are not only turned over to the surgeon early, but they are turned over with localized lesions, the infection not having been spread all over the abdomen by a dose of salts or castor oil, given by the family physician while he was trying to make sure of the diagnosis.

In regard to the question of drainage as brought up by Dr. Beilby, I would say that we have drained the first day cases only when we have had reason to fear the infection of retroperitoneal tissues by operative manipulations, such as the removal of adherant retro-caecal appendices. Second day cases we have usually drained if the peritoneal surfaces were much roughened. Later cases we have always drained if operative manipulations have exposed granulating surfaces.

On motion of Dr. Hacker the thanks of the Society were extended to Drs. Blatner and Stanton.

Society adjourned at 11.00 p. m. JOSEPH A. LANAHAN, *Secretary*.

Current Medical Literature

TUBERCULOSIS

Edited by Arthur T. Laird, M. D.

Hemoptysis as an Early Symptom of Tuberculosis of the Lungs. (Hæmoptye als Frühsymptom der Lungentuberkulose.)

BERTHOLD MULLER. *Beiträge zur Klinik der Tuberkulose*, 1909, xiii, 133.

Bleeding may occur in any stage of tuberculosis of the lungs and need not necessarily be considered as a sign of a serious condition. Frequently bleeding is the first sign that calls attention to a lesion in the lungs. In an individual previously perfectly well to all appearances an hemoptysis may suddenly occur without any apparent cause and without any previous symptom of any kind pointing to the lungs. Neimeyer (1867) believed that hemorrhage was the cause of the trouble in the lungs. Aufrecht and others have shown how this view is erroneous, since tuberculosis is due to a specific germ.

The pathological condition underlying hemoptysis may be compression of the lumen of an end artery by a tuberculous mass, with consequent obstruction and rupture of the blood vessel. This is especially likely to be true in early cases.

A distinction is made between passive bleeding or congestion dependent on heart weakness and active or arterial bleeding. In the latter rise of blood pressure is an important factor. In many cases there are present eroded blood vessels. Bursting of aneurism in branches of the pulmonary artery traversing cavities may take place. Among the exciting causes for bleeding from tissues weakened in these ways may be bodily or mental over-exertion and injury to the chest. An interesting apparent relationship between bleeding from the lungs and the weather has been noted, it having been repeatedly observed that hemoptysis occurs more frequently when the humidity of the air is relatively high. The pathological conditions for hemoptysis may be present without producing any symptoms or physical signs. Cough may be absent. The tuberculin test is not used as often in such cases as it should be. When the hemorrhages occur early it is a fortunate circumstance, for patients are usually sufficiently alarmed by the hemorrhage to undertake suitable treatment at once, and so the prognosis is relatively good.

In order to get an idea of the frequency of hemoptysis as the initial symptom of the disease the author studied the histories of patients in the German sanatorium in Davos. From January, 1905, to April, 1909, 875 patients were admitted. One hundred and seventy cases (19.47 per cent.) had bleeding as an initial symptom. One hundred and twenty-one were men, 49 were women. They were 23.2 per cent. of all the men treated, and 13.8 per cent. of all the women. Bodily over-exertion was more often present in the case of the men than of the women. Most of the patients were between twenty and thirty years of age. After remaining from nine months to one year in the sanatorium, 71 of the 170 patients were ready for work, 60 could work some, 38 could not work

at all, and one died. Thirty patients (17.6 per cent.) had subsequent hemorrhages. One of these patients died of miliary tuberculosis, after hemorrhages lasting several days. Of the remaining patients, five were discharged ready for work, 11 able to work some, 13 not able to work.

The occurrence of repeated bleedings did not necessarily make the prognosis worse in these cases, as will be noted. It is not an established fact that cases with initial hemoptysis show especial tendency to subsequent hemorrhages. Residence in high altitudes does not seem to increase the tendency to hemorrhage. Egger even claims they are less frequent in high altitudes than in low lands. Previous occurrence of hemorrhages is therefore probably no contra-indication to residence in high altitudes.

Regarding the Disinfection of Dwellings in Tuberculosis. (Ueber die Wohnungsdesinfektion bei Tuberkulose.)

KAISER. *Zeitschrift für Tuberkulose*, 1909, xiv, 372.

In No. 16 of the *Deutsche medizinische Wochenschrift* Kaiser writes that formaldehyde disinfection of rooms occupied by consumptives is an illusion and under present circumstances must be considered worse than useless. While the other bacteria in the sputum are readily destroyed, the tubercle bacilli remain alive practically in pure culture.

Roepke takes exception to these views and describes the formalin disinfection of houses occupied by railway employees under the state railroad commission. The theoretical and practical training of special railroad disinfectors was entrusted to him. The sole duty of the men trained by him was to be the disinfection of the houses of railway employees. He gave in all seven courses. Ninety-five applicants began the course and eighty-two passed the final examination. These were considered qualified house disinfectors. In the work the railroad district was divided into eighteen divisions, each with its own apparatus and operators. The procedures consisted in (1) disinfection after the death of a consumptive; (2) disinfection when the consumptive patient was removed to a sanatorium or elsewhere and the family remained; (3) disinfection when the family with the consumptive moved to another house. Any form of open tuberculosis as well as tuberculosis of the lungs called for disinfection.

There can be no doubt that a house infected with tuberculosis is one of the most important factors in the spread of the disease. Rubner calls tuberculosis a "dwelling-house disease," and Hamburger, Schlossman and others call it a "children's disease," believing that it is usually acquired at a time when the house is the child's "world." Coates found virulent tubercle bacilli in the dust or dirt of 66 per cent. of dirty houses occupied by consumptives and in 50 per cent. of fairly clean houses. He was not able to find them at all except in cases where consumptives had occupied the house. Most of the members of the family become infected if disinfection is postponed until the death of the patient. Official disinfection has therefore generally come too late.

Taking up Kaiser's criticism of the formaldehyde disinfection, Roepke considers them in detail. In the first place, Kaiser apparently expects formaldehyde to destroy tubercle bacilli in the center of masses of sputum such as may remain for some time in dark and damp rooms. He does not seem to recognize the fact that formaldehyde gas is a disinfectant mainly of surfaces and does not penetrate deeply. Articles to be disinfected must be arranged so that their surfaces shall be exposed. The formaldehyde vapor does not act efficiently on moistened surfaces or those treated with liquids on account of polymerization. Any one who attempts to disinfect should know that sputum and other discharges from the patient require special treatment. They should be mixed with equal parts of a strong disinfectant, be stirred with a wooden spatula or spoon and be left standing until the disinfectant action is complete. Kaiser apparently expects that formaldehyde should destroy tubercle bacilli in sputum which has dried on the walls or floor. An efficient operator does not attempt to use formaldehyde until after the walls, floor and furniture have been carefully examined, and if any sputum is found all visible masses are carefully wiped off with a disinfectant solution. Cracks and corners should be cleansed with sprays of a strong disinfectant. Finally Kaiser apparently thinks that formaldehyde disinfection should be sufficient for rendering sterile bed-clothes, sofa covers, etc., when the sputum has dried on them. Soiled chair covers, plush or leather upholstery, should be wet with disinfecting solution and brushed or torn apart wet. All washable articles of clothing, bed or body linen, especially pocket handkerchiefs, are especially likely to escape the action of the formaldehyde and should be previously soaked for hours in strong disinfecting solutions. Kaiser does not seem to recognize that the liberating of the formaldehyde vapor is only one part of the disinfecting of a house. As already shown, all discharges, soiled furniture and clothing must be attended to in this way, and everything arranged so that surfaces shall be exposed to the gas.

As regards Kaiser's experiments, any one who knows anything about the working of formaldehyde gas knows that it would not destroy tubercle bacilli in lumps of moist sputum placed in salt solution in shallow dishes.

His other experiment consisted in trying to disinfect with formalin vapor sputum which had been dried in thin layers upon glass or linen. Roepke thinks this should have been easy to do, and criticises Kaiser's technique, wonders whether his apparatus was working right, whether the test objects were freely exposed to the gas, whether he used good formalin, whether the room was tightly sealed, what the temperature and degree of moisture of the room were. His results do not agree with those of numerous other observers of good reputation who have had better success. Generally five grams of formaldehyde for one cubic meter, the room remaining closed seven hours, is considered enough. The imperial contagious disease law states: "For complete disinfection it is necessary first to seal the room tightly on all sides by cementing or plastering all cracks about doors or windows or ventilators, and when liberating the gas, to use at least five grams of formaldehyde for one cubic meter of air space. At the same time steam should be used, enough to completely saturate the air of the room, three liters of water for 100 cubic meters of space. The

duration of the disinfection should be seven hours." All hygienic workers understand that before this the room should be cleaned and especially soiled articles treated with disinfectant. Roepke, the present writer, considers lysol an efficient disinfectant for soiled clothes. For producing formaldehyde gas he considers two methods: (1) The Autan method. In this, formaldehyde gas is liberated when there is poured over a paraffine barium superoxide mixture an equal amount of water. The value of this method is not yet determined. (2) Equal parts of formalin, water and potassium permanganate are mixed together. If large enough quantities are used there is some danger of fire. Tests have shown that neither of these methods are completely satisfactory. The old method of the vaporization of formalin is the best. In most cases there is serious contamination of a few objects near the patient (by sputum, etc.), and superficial contamination of many objects (by dust and droplets). The first can be overcome by scrubbing, etc., the latter by the use of formaldehyde. Employment of steam is not necessary in most cases. It might be used where it is impossible to close the room tightly.

The Intracutaneous Use of Tuberculin for Diagnostic Purposes. (Ueber intrakutane Tuberkulinanwendung zur diagnostis.)

P. H. ROMER. *Beiträge zur Klinik der Tuberkulose*, 1909, xii, 185.

The Von Pirquet tuberculin test has sometimes been negative when the case has been undoubtedly one of tuberculosis. Certain animals and human beings have been found susceptible to the subcutaneous test, though not to the cutaneous. It has occurred to the author that this was not always on account of variation in the concentration of the tuberculin used, but was connected with the varying absorption of the skin. To overcome this difficulty injection *into* the skin was employed. The author's researches were carried on in Argentina upon cattle. The skin was shaved over an area about ten centimeters square. Tuberculin in one per cent. solution, diluted with an equal amount of physiological salt solution was injected into the skin. At first controls were made with glycerin bouillon. These were constantly negative and were subsequently omitted. In positive reactions there was a characteristic, often rather painful, swelling at the side of injection, evident after twenty-four hours, most marked at forty-eight hours and which disappeared after four to six days. One advantage of this method is that small amounts of tuberculin are used. The exact increase in the thickness of the skin and the extent of the area of infiltration are measured by calipers. In twenty-nine tests on cattle all the animals which reacted to the subcutaneous test also reacted

to the intracutaneous test. Thirty-three guinea-pigs were given the intracutaneous test. Ten were healthy. These gave no reaction. Eleven had been injected with dead tubercle bacilli. Of these seven showed slight reactions. Two of those giving reactions after twenty-four hours were albinos. Twelve tuberculous pigs were tested. Eleven showed marked reaction; one in the last stages of the disease showed no reaction. In five albinos reaction did not appear until after twenty-four hours.

GYNECOLOGY

Edited by John A. Sampson, M. D.

The Relations of the Female Reproductive Organs to Internal Diseases.

FRIEDERICH MULLER. *The American Journal of Medical Sciences*, September, 1908.

The writer thinks that since the co-operation of surgery with internal medicine has developed a border zone of the greatest productiveness that, in like manner, the border zone between gynecology and internal medicine should be cultivated more than it has been in the past.

He first considers those internal diseases which have been observed in connection with the physiological processes of the female generation organs, namely, puberty, pregnancy and the menopause.

Associated with puberty he discusses chlorosis, thyroid enlargement and psychic changes, and especially the psychic changes often associated with imperfect sexual development.

Associated with pregnancy and as a result of it, he discusses a condition of general disturbance of nutrition and loss of strength often seen in young women following childbirth, to which he has given the name of post-puerperal asthenia. Following this he speaks of the so-called physiological vomiting of pregnancy and the uncontrollable vomiting. Associated with the latter, symptoms may be present, which correspond to those associated with the toxic polyneuritides. Multiple sclerosis frequently develops during pregnancy and often becomes progressively worse with each succeeding pregnancy. Cardiac disturbances may take place during pregnancy and usually manifest themselves by arrhythmia which give rise to uncomfortable sensations of intermittent heart action, to precordial flutterings and dyspnea. With the advent of labor they usually cease but recur with each new pregnancy and are often more severe. He is unable to explain the cause of this arrhythmia and thinks that sometimes the cardiac disturbances of pregnancy are responsible for permanent injury to the heart muscle. Very frequently the thyroid becomes swollen during pregnancy but usually returns to its normal size after labor. This enlargement of the thyroid gland is usually not associated with symptoms of hyperthyroidism. On the contrary if hyperthyroidism existed before the beginning of pregnancy, it tends to diminish

or entirely disappear during gestation. Still there are exceptions to this rule and pregnancy may aggravate these symptoms.

Associated with the menopause a condition of psychic depression often develops. This is often particularly distressing if caused by the removal of the ovaries, when one sees all the characteristic appearances of the menopause but more violent; such as congestion of the head, other vasomotor disturbances, palpitation of the heart, increase in weight, loss of physical and mental energy and above all the signs of psychic disturbances and depression.

Secondly, he considers the diseases of the female reproductive organs which give rise to pathological processes in other internal organs. Constipation is a frequent sequel of diseases of the uterus and adnexa and this constipation may give rise to a whole train of resulting symptoms. Mucous colitis is often associated with diseases of the reproductive organs. The "myoma heart" was first recognized by the gynecologist, when following operation sudden heart failure occurs and at autopsy a soft flabby heart is found. A satisfactory explanation between myomata and heart disease has not been found. The relation between myomata and goitre is equally obscure. The occurrence of the two conditions is so common in Munich that the writer has made it a rule to examine all women with thyroid enlargement for myomata and vice versa. The relation between pelvic inflammatory disease and disturbances of the nervous system is well known.

Thirdly, he considers the diseases of other organs in which a certain relationship to the female reproductive organs exists. He first discusses the toxic and infectious diseases of the kidneys associated with pregnancy. Cholangitis, cholecystitis and gall-stones occur three to five times more frequently in women as in men and gall-stone colic is often associated with diseases of the female genitalia. Pregnancy is undeniably associated with gall-stones and the latter may manifest themselves during pregnancy but still more frequently during the puerperium.

Appendicitis also has a relationship to diseases of the genital tract, the initial attack as well as recurrences often occur at the time of menstruation and in this way the diagnosis between appendicitis and acute tubal infection may be very difficult.

Lastly, he discusses the relation of the female genital organs to the constitutional and infectious diseases but out of this vast field considers only two, namely, diabetes and tuberculosis. As a rule pregnancy and the puerperium is, excessively fatal in diabetic women and they likewise have a very deleterious influence on tuberculosis.

In closing the writer emphasizes how important it is for the internist and especially for the general practitioner to turn his attention to the gynecological condition and in suitable cases to seek the advice of the gynecologist. On the other hand, with justice, we can expect the gynecologists to direct their attention, more than they have heretofore, to medical disorders, and in doubtful cases to secure the advice of the internist.

ALBANY MEDICAL ANNALS

Original Communications

SOME POINTS ON THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.

Read before the Medical Society of the County of Franklin, June 9, 1910.

By ALFRED H. GARVIN, M. D.,

Medical Superintendent, Raybrook State Hospital.

Mr. President and Gentlemen of the Society:

There is such a vast amount of material on tuberculosis in the medical press at the present time that many of you have undoubtedly wished for some place to turn where this immense activity has been summarized satisfactorily.

The International Congress on Tuberculosis, held some sixteen months ago at Washington, covered the field very satisfactorily and for those of you who did not find it convenient to attend, the transactions — in six volumes — gives the most modern thought if not in the briefest possible space. The transactions are in print. The following books now in English: Cornet, Bonney, Turban, Klebs — give the matter in the most modern book form. For a small book, Turban continues without peer as the best exposition of physical diagnosis.

Before entering upon a discussion of the Early Diagnosis of Tuberculosis of pulmonary type, there are a few questions that I would like to bring to your attention:

Can a person progress and advance in his lung tuberculosis and manifest no obvious symptoms of this progression?

Can a patient go into advanced tuberculosis and not know it?

What is the most important physical sign in the early diagnosis of consumption?

What is the most important single working rule for the general practitioner in the fight against this disease?

To the patient early diagnosis means everything. Procrastination at the beginning greatly reduces the patient's chance for recovery. The patient's chance for recovery is proportional to the extent of the disease and its duration. But on the other hand, before a patient is unnecessarily damned with a diagnosis of tuberculosis it must be done on positive and certain and very definite evidence.

Given a case that presents for chest examination only for a positive or negative opinion as to the presence of tuberculosis, the problem is very much simplified so far as the doctor is concerned. But this limitation of possibility of diagnosis in the cases that daily appear seldom occurs, and the family doctor must place the possibility of tuberculosis along with all the other possibilities of diagnosis that may arise in the case. The patient himself seldom presents himself for a *diagnosis of tuberculosis alone*.

Before considering the diagnosis it is well to define just what we mean by incipient pulmonary tuberculosis. In sanatorium work in this country tuberculosis is classified according to the scheme formulated at the first meeting of the National Association for the Study and Prevention of Tuberculosis which met at Washington in May, 1904, and is a Modified Turban Scheme.

The disease is arbitrarily divided into incipient, moderately advanced, advanced, miliary and progressive.

Incipient Tuberculosis is defined

Slight initial lesion in the form of infiltration, limited to the apex or a small part of one lobe.

No tuberculous complications. Slight or no constitutional symptoms (particularly including gastric or intestinal disturbances or rapid loss of weight).

Slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours, especially after rest.

Expectoration usually small in amount or absent.

Tubercle bacilli may be present or absent.

Moderately Advanced.

No marked impairment of functions either local or constitutional.

Localized consolidation moderate in extent with little or no evidence of destruction of tissue, or disseminated fibroid deposits. No serious complications.

Advanced.

Marked impairment of function, local and constitutional.

Localized consolidation intense; or disseminated areas of softening; or serious complications.

On considering the definition for incipient tuberculosis you will be inclined to ask — *What does the patient complain of?* What does he suffer from? What does he come to you for? These questions are unanswerable in any positive way, and this is the whole difficulty about the diagnosis of incipient pulmonary tuberculosis. The patient complains of nothing, suffers from nothing, and in the vast majority of cases presents no obvious symptoms. *The logical* question that comes from a situation like this is — “How are we to find the patient?”

When a moderately advanced or advanced case appears before you in your practice, and sits in your office chair, with his thin, cough racked frame, and his long bony hands on his jack knife knees, a history seems useless and physical examination a procedure that the patient expects but which is rather philosophically performed by the doctor. What can you do for him? This thin man, with *his skin deeply* vein marked, lying in folds over his bones, breathing in a labored manner, *with rattles in his chest audible at six feet*, listening with a leaden eye to the advice that is given him.

Every moderately advanced or advanced case that appears was at one time certainly incipient, and while his present unfortunate condition may or may not have been avoidable, it was at least preventable. If given a favorable opportunity to recover in the beginning, in the vast majority of cases, at least seventy-five per cent of those in the incipient stage would not have become advanced.

The most essential thing, after a moderately advanced or advanced case has had all the comforts provided for him and clearly instructed in prevention, daily routine of living, and necessary treatment, is to consider each advanced case that appears a center of infection and a point of attack in the tuberculosis problem, for *so far as prevention is concerned in the advice given*

to this patient, prevention begins only in the diagnosis and co-operation of the patient.

An infection of immediate family or associates at work undoubtedly has occurred in the past.

If possible, in the detailed history of the case itself, the source of infection should be traced. This should be possible in fifty to seventy-five per cent. of all histories.

In 1600 cases who officially applied through our examiners for treatment at the Hospital at Ray Brook, but 325 were noted with positive history, or but one-fourth of the total number. This extremely small number has an explanation in that the patient either wilfully conceals for the sake of making his case appear more favorable in the eyes of the physician, or that he is unacquainted with his family history. That a patient will deceive his physician as to the presence of a chronic disease in his family is a fact too well known to need much discussion.

It very frequently happens also, that upon the first careful history the patient is unable to recall the essential facts at the time the physician questions the patient, and from no desire on the part of the patient to deceive, he simply is unable to recall the facts in his family history, and on account of memory lapse, histories taken but once are frequently negative.

The taking of a second history frequently obviates this source of error, and the patient upon second repetition of the question is able to give an extended and interested discussion upon the question that he or she was entirely ignorant of the day or the week before when a previous history was taken.

That a patient is very frequently ignorant of the exact nature of a certain chronic disease from which an immediate relative is suffering or has succumbed is often observed. This lack of information concerning the health of the family is due in part to a failure to convey to the patient and the family the correct diagnosis, as the patient is often kept in ignorance of the source and exact nature of his disease. Very frequently younger members of the family are never taken into the confidence and do not know the essential facts.

Patients are very frequently able to describe the course and symptoms of a fatal disease in near members of the family (which is undoubtedly tuberculosis), and by inference only can they call it this, as they have never heard definitely that their father or mother or sister died of this disease.

This point is very important, as frequently an incipient case of tuberculosis, who may be entirely ignorant of the fundamental symptoms of a chronic case, may not realize that his symptomless and apparent state of health is at all a forerunner of the terrible condition in which he had seen his father, or mother, or sister.

Of these 1600 cases who were examined by our Official Examiners, the source of infection in ninety per cent of the cases that gave positive family history appeared in the immediate or collateral family, and only ten per cent in preceding generation—illustrating the point that the recorded cases lived the greater part of their lives within the same period as the patient—ten per cent only in the preceding generation. Also, the fact was developed that there was no pre-disposition traceable to father or mother's side—each side showing approximately the same number of cases in the family.

This merely emphasizes the point that direct and long association with an infectious case is one of the chief essentials to ascribe its origin in the patient.

In 2400 cases treated in the first two years at the Henry Phipps Institute at Philadelphia, family history was positive in fifty-eight per cent of all the cases, and of the cases developed in positive family history, ninety per cent lived the greater part of their lives within the same period as the patient—either as father, mother, brother or sister, or at place of work.

In the first 500 cases treated at Ray Brook, forty-one and six-tenths per cent gave positive family history, and also of the cases developed in history ninety per cent *of these* lived *within* the same period as the patient.

If by far the vast majority of incipient patients show practically no symptoms, what are the signs which are most essential as beginning symptoms of pulmonary tuberculosis, and what is their significance?

Among the first 500 cases treated at the New York State Hospital, there were incipient on admission 285, or fifty-seven per cent of the total number: 164 were moderately advanced, or thirty-two per cent, and ten per cent were advanced. Two cases were negative and two cases gave no history.

The 285 incipient cases were tabulated, as regards first symptom, according to the best observation of the patient. All

of these patients undoubtedly had tuberculosis for some time before entrance, the average period being (according to the history of the patient) about five months in those cases who had the disease less than one year and were probably suffering from their first definite clinical invasion of pulmonary tuberculosis and thirty-one months in duration in those who had either had tuberculosis continuously or who were undergoing treatment for their second invasion or relapse of pulmonary tuberculosis. Before treatment the patients had all been observed more or less accurately by various physicians throughout the State sending them.

Cough with expectoration as the beginning symptom was present in twenty-three per cent of the cases. *Cough with marked physical weakness* was present in twenty-one per cent as the first prominent symptom.

In regard to cough with expectoration, it is commonly thought that all tuberculous people must of necessity cough and spit, and that cough and consumption are synonymous terms. This view, which is often shared by the physicians, is misleading, and from these statistics the total number of patients who complained of cough is far less than *half* the total number—only forty-four per cent—and *these figures insist upon the point that cough, or cough with expectoration, as such are not prominent among initial symptoms of tuberculosis, although they head the list numerically. Incipient tuberculosis is symptomless.*

Hemorrhage as an initial symptom was present in nineteen per cent of the 285 incipient cases. This symptom is rightly feared by both the laity and medical men as a sure and definite symptom of tuberculosis, and if from the lungs and from no other place, such for instance as nose bleed, bleeding gum, or bleeding adenoid, practically has no other cause in the lung than tuberculosis. Excessive trauma and cardiac disease to be ruled out.

When a person has sufficient disease to cause breaking down and rupture of a blood vessel, the amount of tuberculosis is definite and the initial hemorrhage may sometimes be quite great, but the total number of these as compared with the whole, leaves hemorrhage as a diagnostic sign to be waited for as one out of the question.

On the other hand, it is perhaps rather comforting to realize that approximately twenty per cent of the cases will in a sense

diagnose themselves in the curable stage, and this relieves the physician, at least as far as the diagnosis is concerned, of one-fifth of the total problem in diagnosis, so far as these figures show.

It need not be stated that as an initial symptom hemorrhage does not play as important a part in the initial symptoms as here stated, and the explanation for the large number of cases among these 285 incipients in whom hemorrhage assisted in diagnosis is due to selection of case, for the cases at Ray Brook are all supposed to be selected and favorable cases.

It is popularly considered that the early hemorrhage case does well, and medically this idea is more or less borne out. The chief explanation, it seems to me, is in an incipient case not so much that the patient has been a bleeder, as the fact that he has incipient tuberculosis and knows it and will obey medical advice explicitly, in contradistinction to the patient who has the same extent of lesion and who has not spit blood, and who labors under the delusion that there is nothing serious the matter with him until he has become more advanced in the disease and has been convinced by a similar medical accident *or by obvious and constant symptoms*.

Pneumonia as an initial symptom was present in four per cent of the cases. *Pleuritic pain* attracted the patient's attention to some disease in the chest in twelve per cent of the cases. *Grippe* was noted by the patient as being the beginning of a tuberculous invasion in four per cent of the cases. *Chest fluid* was present in two per cent, the diagnosis being made by needle, and the patient having no idea that anything serious the matter existed until chest fluid developed apparently out of a clear sky. *General weakness, loss of appetite, fever*, were each ascribed in two per cent of the cases as being first possible definite symptoms in the disease.

The symptoms of onset in these incipient cases were also paralleled with those moderately advanced and advanced at the time of entrance, and they perfectly agree in percentages, and the chief opinion of the patients about all the prominent symptoms of onset being that they were *prominent in retrospect* only as the patient had become keen from his five or six months' experience with the disease, and his education and observation in the

progress of his case in those little things which indicated to him that he was or was not doing well.

When the essential facts in the family history that have bearing on the case, have been considered in detail, and the conditions of work, hygiene, previous diseases, and exposure to infection that might definitely predispose the patient, have been disposed of, and the prominent symptoms of onset been developed, it would be well to consider the prominent symptoms in the early months of the disease, with their frequency of occurrence.

Obvious loss of weight is rightly accredited a prominent symptom of tuberculosis, and the lay name of the disease—consumption—derives its name from this prominent feature. It was however, present in but forty per cent of the cases who were incipient on admission, and in fifty-six per cent of the moderately advanced, and sixty per cent of the advanced cases. This illustrates that the outside appearance of a patient is no real indication as to his actual physical condition, and this applies almost equally as well to the advanced as to the incipient.

Fever and *chills* as associated with tuberculosis are important symptoms, but were present in less than fifty per cent of the cases in the first six months of the disease. The course of the usual septicemic relapse and the chills noted in the progress of a disease of six months duration or more, has so many explanations and may be due to so many causes that nothing definite concerning them can be stated, with the exception of citation of statistics. A person may slowly and steadily advance in his chronic lung inflammation and apparently manifest no fever and no measurable disturbance of the sympathetic nervous system.

Hemorrhage in the first six months occurred in practically twice the number of cases in which the symptom assisted in diagnosis. It was present in forty per cent of all the cases in the first six months of the disease.

Sputum was absent in twenty per cent and present in slight to abundant amount in the remaining eighty per cent.

Tubercle bacilli were noted in the incipient cases as positive in thirty-five per cent of the cases before entrance and in forty per cent after entrance. The finding of tubercle bacilli in the sputum is, of course *the* positive proof that the patient is suffering from a tuberculous infection, but their presence is *not* a fundamental requisite to diagnosis and is not to be waited for in order to definitely assign a diagnosis of tuberculosis.

A word as to sputum examination: It is the HABIT in these laboratory days to turn a great amount of this work over to the laboratory specialist or bacteriologist. In some ways this works well and for the patient and in other ways against. The tendency is to render a negative clinical diagnosis in spite of the presence of undoubted symptoms and signs of the disease when the sputum examination is negative, and this negative opinion is frequently rendered on one negative sputum examination.

In a certain case under my observation, where in the short time of two years two out of four young adults in a family have been carried off by tuberculosis, a third member suspected the disease in himself and availed himself of the easy laboratory examination of the sputum for bacilli and the examination resulted negatively and the patient consoled himself that there was no cause for alarm. Unfortunately, he had a moderately advanced closed lesion. What should have been examined was the patient and *not the sputum*. I recently had an opportunity to examine the fourth young adult in this family and you will be interested to know that he also presented signs of infection.

Woman—Examine stools not sputum.

Sputum examination.

When a person has arrived at the spitting stage, with bacilli in the sputum he has arrived past the stage of infiltration and must of necessity have a sizable ulcer, with obvious destruction of tissue and degeneration, to account for the initial breakdown, and the discharge in the way of purulent sputum.

A patient who has been allowed to go on to destruction of tissue in order to develop these symptoms has a much more serious time to heal his lung inflammation than one who is treated before the initial breakdown occurs; and frequently, in addition to tuberculosis, by the time the patient has acquired his open lesion he has to fight also a mixed infection—one of the many known and obscure secondary infections which perhaps resulted or assisted in the opening of his lesion.

In a collection of 400 cases of incipient tuberculosis (cases treated at Saranac and locally) the sputum was negative in fifty-three per cent of the cases, so if these cases were all tuberculosis, positive sputum as a factor in diagnosis was present in only one-half the cases.

After the symptoms in the patient have been developed physical examination follows:

As to the particular position of the patient, the standing, the sitting and the recumbent positions all have their own advantage to develop certain signs, but the most essential thing is that the patient have the necessary clothes removed. It is simply impossible to express an opinion, whether positive or negative, as to the presence or absence of signs in the chest if the physician does not listen directly to the skin with a stethoscope. A partial exposure of the region to be examined means incomplete examination and dissatisfaction both on the part of the examiner, and sooner or later on the part of the one examined if error has resulted through incomplete examination.

In regard to the anatomical limitations of the lung, I will discuss but one. The complemental pleural space is not usually carefully considered, and it extends from one-half to one and one-half inches below the free margin of the lung. The whole space that must be examined in a thorough lung examination includes the whole bony thorax from above the clavicle to the free costal margin below and the lung front and back.

Unless the patient is conveniently stripped to the waist, with some adjustable covering that can be moved from place to place, the lung examination will be most unsatisfactory.

In the usual procedure in complete lung examination, after mensuration and expansion have been tested bilaterally (which procedure, by the way, gives no real evidence concerning incipient pulmonary tuberculosis), it is most convenient to examine the patient either in a standing or sitting position.

I prefer to examine patients seated on a rotary stool, sitting beside them and not in front of them. The patient's chest on the side nearest the examiner can be auscultated and the patient can be turned facing in the opposite direction for auscultation of the opposite side. The physician is never directly in front of his patient in this way, and in case the patient accidentally coughs and has not a proper gauze handkerchief in which to cough, there is a minimum danger of the patient coughing on the physician. The patient can be turned directly away from the physician for the examination of the back.

The sitting position also offers to my mind very much, in that the physician can be more deliberate about his examination, can

come back repeatedly to the same spot for auscultation, there is less mental strain entailed upon both the examiner and the one examined. Also, the strenuous deep breathing that is involved in lung examination is very fatiguing to the patient, and not infrequently causes him to become dizzy, and if care is not taken the patient may pass into syncope. The sitting position allows the patient to relax and to rest much more completely after periods of deep breathing than he could relax in a standing position.

Examination flat on the back in bed is found not usually satisfactory. The patient should be sitting over the side of the bed or sitting up; the recumbent position developing signs which are best seen on inspection.

In regard to the formal procedure of examination, inspection is first, and in real incipient tuberculosis is negative. There may be slight retardation of movement upon the infected side. There may be slight retraction of the supra or infra clavicular space, or there might be slight atrophy of the muscles in the region of the shoulder. The usual inspection signs that are called predisposing—paleness, loss of flesh, long thin chest, etc., are usually not predisposing signs, but signs of the disease itself, usually advanced.

A most important point in inspection is the presence or absence of Litten sign, with a note as to its extent and activity. This is the diaphragm phenomenon and is easily demonstrable. It can be developed in any position of the patient, if the patient is able and will take a full breath in and out. The chest must be properly lighted from one direction. The most easy demonstration of the sign is with the patient in a recumbent position, having him breath deeply in and out. The active Litten may frequently be three inches in extent, and is normally two to two and one-half inches, and when retarded or diminished it can be compared with the opposite side. It may be so slight as to be but one-half inch in excursion. Its significance is that of limited movement of the inflamed part, either reflexly or by adhesion, and not infrequently assists very materially in the diagnosis of a side which is at present actively tuberculous.

Slight dilatation of the pupil on the affected side sometimes occurs, and in conjunction with other unilateral signs helps a

little. The explanation of this sign is due to irritation of the sympathetic nerve in the chest, probably at the root of the lung.

Palpation comes next in order, and again in the true incipient is negative. Consolidation which is dense enough to give obvious change to palpation means that the pathological process which has progressed in the lung is of much denser nature and more vast in extent than could be classified as incipient. If ronchial or rale fremitus is demonstrable, and if the case is tuberculosis it is almost certain that it is moderately advanced or more.

Percussion, for the same reason gives little or no evidence or help in the diagnosis of incipient tuberculosis. If the case is really incipient percussion is negative, or practically so. Still, slight changes in percussion note are obvious in cases which can be properly classified as incipient and a very slight dulness felt rather than heard, a resistance to the percussing finger assists frequently in locating the inflamed area. However, if change in the percussion note is very considerable, the pathological process which produces this change must also be quite considerable.

Auscultation is the final test, so far as physical examination is concerned, and it is the most important part in the examination. The character, the quality, the intensity and duration of inspiration and expiration are the points that are noted in regard to the breath sounds, alteration in voice, both whispered and spoken, and in addition the presence or absence of any adventitious sign, either in deep breathing or developed upon cough.

The character of the breath sounds must be noted in detail. The length of the inspiratory murmur, its relative pitch, its intensity, and its quality as compared with nearby regions and with the same area on the opposite side of the chest.

Quality is not easily definable, but change in quality is not a thing of occult nature, and while it cannot readily be defined, it is a thing easily appreciated on listening to areas in the same chest which have perhaps the same pitch and the same intensity but differ in quality. Illustrate.

In regard to intensity, the consolidated area of necessity does not always give increased intensity to the breath sounds. Very frequently the breath sounds may be diminished. The actual explanation for this fact is not clear, but it exists. For instance, the site of a slight pulmonary hemorrhage of an ounce or more, which does not repeat, can often not be located, and there may

be no demonstrable signs within the chest at all, except at one point an area of diminished breathing. It is not infrequent to even find less than this, and often not to be able to localize at all.

The duration of inspiration and expiration are important points, especially a prolonged and intensified expiration that is localized.

After breath sounds have been thoroughly studied throughout the chest, alterations in voice and whisper follow. Unless there is some obstruction of slight nature in the bronchial tubes leading to the inflamed area, which perhaps causes diminished breathing, voice and whisper are usually intensified over the infiltrated area. If an area is noted diminished in breath sounds, voice and whisper are usually correspondingly diminished. The breath, whisper and voice are usually paralleled exactly.

After the notation of the breath, whisper and voice, the development of adventitious signs follow, and the presence of rales, their size, quality, number and time of occurrence in respiratory cycle should be noted. In many cases of incipient tuberculosis there may be no adventitious signs developed on the very deepest breathing. In fact, the absence of an adventitious sign on deep breathing renders the case more favorable in prognosis when it is only on cough that signs within the chest are developed.

Auscultated cough is the one most important physical sign in the diagnosis of incipient pulmonary consumption, and it is the proper use of the cough alone that enables the physician to localize disease that would repeatedly otherwise be passed over. The importance of this procedure in physical examination has not been emphasized. In a new work recently translated into the English language from the German (Sahli's Physical Diagnosis), in this immense book of 1200 pages on diagnosis, there are two lines on the significance of auscultated cough.

It has been my experience that it is not so much the trouble in hearing the signs as in the difficulty of developing them. A chest which may be free on ordinary breath sounds, upon cough may develop rales of various nature, from a dry crackling rale to a great abundance of fine showery or coarse crackling rales, which may be moist or dry, sonorous or sybilant type, with all variations in the quality of sound to the very finest crackles. The softer and more bubbling the rale the more apt is the patient to demonstrate it on ordinary breathing, and the

dryer and more crackling the less apt is the adventitious sound to be heard on ordinary breathing.

The patient after expiring deeply gives a slight, hacking cough (illustrate) thus:—and follows this with a deep breath. The cough must not be a succession one (illustrate) thus:—but so (illustrates)—and must not be too loud, for frequently numerous showers of rales may be lost in the explosive cough of the patient and the area of the chest noted as negative that has definite physical signs located within it. Immediately following the cough inspiration will develop the signs if present, and if rales fail to develop in this way it is not unwise to have the patient breathe out completely, then cough and breathe in.

Inspection, palpation, percussion and auscultation of breath sounds should be done with the least possible exertion on the part of the patient, and the area in the chest, from history and physical examination thus far suspected, selected for auscultation and that part auscultated first—left apex front or behind, right apex front or behind, or both, as the case may be.

Location of lesion is approximately sixty per cent in the right upper lobe, thirty-five per cent in the left upper lobe, four per cent in the right lower and one per cent in the left lower in the 285 incipient cases that I have been citing.

After all the leading symptoms have been ascertained, the suspected area is auscultated first with cough, and if nothing is developed the remaining chest is auscultated, returning frequently to the suspected area and listening again and again to cough. Frequently rales at the apex are overlooked and it is noted that the patient has, for instance rales from the third rib to the base, whereas if the examiner had returned to the original site noted as negative he would have heard rales and would have noted the presence of adventitious signs throughout the whole of one lung, instead of through the lower lobe. Frequently the rales are heard best in front or behind, usually not with the same degree of readiness at both places, unless the patient has a rather extensive infiltration.

The auscultation of the apex posteriorly may give most definite and abundant showery rales and with marked change in voice, breath and whisper, then the anterior examination of the same apex will be almost negative, and this is as it should be, for the smaller and more localized the lesion and the fewer the sounds,

the more favorable the chance for the patient. The presence of even a single rale is of suspicious import if it is constantly present.

I remember a case of incipient tuberculosis who had but one rale located at his left apex, and no other apparent demonstrable sign. His lesion was so small as to apparently give no change in voice or in whisper or in breath, and as to the diagnosis, there can be no doubt, for this man exhibited the bacilli in his sputum for four months and recovered to an apparent state of health within a nine months' course of treatment.

After the case has been thoroughly examined the patient necessarily expects the expression of a definite opinion, especially if he has been hammered over for a half hour or more, but it does not necessarily follow that a positive or a negative opinion can be stated definitely. If the physician is suspicious of the case even though apparently negative on examination, a negative opinion may do the patient incalculable harm by giving him too great assurance that there is nothing the matter with him, and on the other hand, positive opinion where there is nothing more than suspicion is not warranted by the very depressing nature of the news to the patient that he is a sufferer of the "white plague."

The best procedure, I think, in a case where uncertainty exists is to inform the patient of no definite opinion, and to state that there are no definite reasons for thinking that a diseased condition exists in the chest, but that the disease has not been entirely ruled out and second or third examination is of absolute necessity to express an opinion.

You all have undoubtedly had an advanced case walk into your office, so obviously diseased as to have the diagnosis written on his face, and you have passed him in into your examining room and have listened to him, and have been astonished *at what you did not hear*. There are days when patients even with advanced tuberculosis will have few signs,, and there are parts of days when patients of incipient or moderately advanced disease may have almost absolutely no signs, a patient in the morning after his cough and expectoration has been finished, has performed his pulmonary toilet, and he may be for the time being extremely free from signs, and the expression of an opinion upon the case where signs are so demonstrably variable from day to day cannot

be made with any certainty upon a single examination, and if this is true of the moderately advanced and advanced cases, how much more absolutely certain is it of the incipient case?

If after repeated negative examination, if after the temperature has been carefully watched, if after the sputum with repeated examination has proven negative, and for some reason, such an obvious loss of weight, or persistent rundown condition, or long exposure to infection, or unexplained rapid pulse, renders the case suspicious, the tuberculin test may render assistance.

The test is of no use in those cases which are immunized to tuberculin, as is now done in the so-called tuberculin treatment, and in those cases who have immunized themselves as it were to tuberculin, which sometimes occurs, as all cases of tuberculosis do not re-act to tuberculin. Fever cases render the test of no value, as the test is in itself a fever test, with certain characteristic symptoms. The test in itself is of no assistance in localizing the tuberculosis, unless there is a suspicious area.

Briefly, the test depends upon the excitation in some way of a local and the general reaction as the result of irritation of the local tuberculous inflammatory area, expressing itself with the general symptoms of fever, intense pain in the back, malaise and headache, and with increase in the activity of the local signs. If the patient is afebrile, and if there is a suspected spot in the lung, all other signs being practically negative, and the tuberculin test is given with positive fever reaction and with increase in physical signs at the area suspected, with an increase in moist signs, the test may be assumed to be positive and the case a justifiable one for treatment on the ground that the patient's malnutrition is a result of closed tuberculosis.

The administration of the test and the diagnosis varies according to the practitioner, and is usually given with the old tuberculin of Koch in doses of from one-half to ten milligrams by hypo until the patient either reacts or does not react. Usually dosing the patient with $\frac{1}{2}$, 1, 2, 4, 8 and 10, or 1, 2, 4, 6 and 10 milligrams at intervals of from three to five days between each dose. The temperature chart being kept up continuously during that time and the patient kept in bed the full twenty-four hours after the test is given, and longer in case he reacts, the temperature being taken every two hours after the test is given, beginning about six hours after the injection. It is

usually most convenient to give the injection just before the patient retires at night and to begin his fever chart at six in the morning, continuing throughout the day and longer in case he reacts.

If the patient does not react to ten milligrams after an interval of five or six days, a second dose of ten milligrams can be repeated, and if he fails to react to this, he can be, so far as the test is concerned, considered a negative case. (Verbally explain test.)

The test, in my opinion, is one which should be applied very carefully, as the old tuberculin is simply a certain filtrate of cultures of the tubercle bacilli and the poison is the most powerful and potent known. It has done an excessive amount of harm in the past and unless properly handled will do great damage, and also, if indiscriminately applied, a great number of reactions will be obtained in people in whom there is no necessity for active treatment of their latent tuberculosis.

From sixty to seventy-five per cent of the total population would react to tuberculin, as we are almost all of us infected with tuberculosis, but these small infections are absolutely latent and need absolutely no treatment.

OPHTHALMIC TUBERCULIN TEST of Calmette and Wolff Eissner

1. Definition of test and drop.
2. Preparation of tuberculin solution.
3. Description of reaction.
 - a. Typical.
 - b. Retarded.
 - c. Prolonged reaction.

Significance in severity	{	+	redness of caruncle.
		++	same + palpebra.
		+++	same + conjunctiva.
2.	{	Incipients and latent cases.	
		Moderately Advanced cases.	
		Advanced cases.	
		Progressive cases.	
		Non-T. B. cases.	
Suspected and Non-T. B. Cases.	{	1. Eye reacts to too strong solution.	
		2. Susceptibility of eye to second test.	
		3. Inert solution.	

SKIN TEST OF PIRQUET
MORO TEST

In closing there are three points that I want to again emphasize in the early diagnosis of the disease.

The first is the very great insidiousness of onset. One but needs to see a few cases of moderately advanced or advanced tuberculosis, who have in a slow and stealthy manner progressed in their lung inflammation, to realize how far a patient can go in tuberculosis and have absolutely no realization of the seriousness of his condition. It is on account of this very great insidiousness that the cases usually go into moderately advanced and advanced disease before they are discovered clinically. And it is also for this reason, more than it is the fault of the doctor or the fault of the patient, that the case thus progresses without discovery. If there was any prominent or indicative symptom this condition would not exist, but if insidiousness is not appreciated the tuberculosis problem will not change to any very material extent, so far as the patient is concerned.

The second point is emphasis upon the most important physical procedure in the diagnosis, which is auscultated cough. A lung examination which does not necessitate the patient's coughing is *not* a complete examination, for a case with definite signs will be passed over and marked as negative if this is forgotten. The suspected area can be re-examined again and again during the physical examination in an attempt to develop the suspected signs.

Third. The most important working rule for the general practitioner in the fight against this disease is *family examination*. In 4,500 new cases of pulmonary tuberculosis that applied for treatment at the public clinics in Berlin, under the direction of Dr. Kaiserling, the families of these 4,500 new cases were systematically examined for a discovery of concealed and unknown cases, and as a result of this systematic family examination in these 4,500 cases, 4,500 *additional* cases of unknown tuberculosis were discovered, many of them in an early and favorable stage for treatment, and many, of course, having gone on insidiously and were concealed and unknown bacilli bearers, even to themselves.

THE ALCOHOLIC PSYCHOSES.

Read at the meeting of the Lake Keuka Medical Association, Grove Springs, N. Y., July 21, 1910.

By ROBERT E. DORAN, M. D.,

First Assistant Physician, Willard State Hospital, Willard, N. Y.

There is some difference of opinion among competent authorities as to what cases should be included under the heading of alcoholic psychoses. On one hand, we have those who would limit the alcoholic group to include only cases showing the polyneuritic symptom-complex of Korsakow; and on the other, those who broaden it to include all cases in which alcoholism is an etiological factor, and in which there are more or less well defined symptoms which are regarded as characteristic of alcoholism. Those who hold to the first, argue that the so-called polyneuritic psychosis is the only one which can be diagnosed as alcoholic in the absence of a knowledge of the patient's history; that in other forms of psychoses attributed to alcoholic habits the symptoms are not definite and may belong to some other psychosis or be produced by some other cause. While there is some truth in such arguments, and it must be admitted that we cannot always diagnose cases of alcoholic psychoses in the absence of the history, yet in the opinion of a majority of competent observers, there are many cases aside from the polyneuritis group which must be included under the alcoholic heading if we weigh all the facts. We can do this and still reject all cases in which alcoholism is an etiological factor in other well marked groups, for it must be understood that every case in which alcohol is given as an etiological factor is not a case of alcoholic insanity. It must also be understood that even with a marked history of alcoholic indulgence the case is not considered as belonging to the alcoholic group unless certain symptoms are present which we know can be produced by alcoholism.

When we consider cases in this manner we may make several groups under the general alcoholic heading, but before discussing the symptoms of these groups separately it may be well to touch on the subject of the frequency of alcoholism as a cause of insanity. Here again, recognized authorities differ, some attributing as high as twenty-five per cent of all cases to this cause, and others as low as three or four per cent; the latter figures being

given by Turner (*Journal of Mental Science*, January, 1910.) who argues that Korsakow's psychosis is the only form of alcoholic insanity. This fails to indicate the importance of alcoholism as a factor in insanity, and while I have no desire to exaggerate the influence of alcoholism in this connection and would condemn such statements as "No alcoholism no insanity," yet I believe that the proportion of cases who become insane through over-indulgence in alcohol is much higher than the last percentage would indicate. This question is difficult as are all questions relating to the etiology of insanity. In alcoholic cases as in all others, many factors must be considered and it is seldom that a single factor can be separated and emphasized as the cause without which the mental upset would not have occurred. According to Kraepelin, thirty per cent of the men and six per cent of the women admitted to the Psychiatric Clinic at Munich during 1905 belonged to the group of alcoholic psychoses, while alcohol acted as a cause in forty-four and nine-tenths per cent of other forms of insanity. The report of the Commissioners in Lunacy for England and Wales for the year 1907 gives alcohol as an assigned cause in 14.2 per cent of all cases.

I am indebted to Mr. C. H. Sears, Statistician of the State Commission in Lunacy, for the following figures relative to the influence of alcohol in the production of insanity in New York State for the year ending September 30th, 1909. During that year 2,780 men and 2,442 women were admitted for the first time to the New York State Hospitals. Of this number, 433 men or 15.5 per cent and 128 women or 5.2 per cent were diagnosed as belonging to the group of alcoholic psychoses. The use or non-use of alcohol was ascertained in 2,693 cases among the men. In these, alcohol was an assigned etiological factor in 845 cases or thirty-two per cent and was mentioned as a habit in 384 additional cases or fourteen per cent, making a total of forty-six per cent of the male cases in which alcohol appeared. Among the women, the use or non-use of alcohol was ascertained in 2,359 cases. Of these, there were 226, or over nine per cent in which alcohol was an assigned etiological factor, and 143 or over six per cent in which it appeared as a habit, making sixteen per cent known to have used alcohol. The foregoing figures show that, exclusive of cases in which alcohol was merely mentioned as a habit, it was an assigned cause in 21 per cent of 5,052 cases in both sexes,

while it appeared in the cases of thirty-two per cent either as an assigned cause or as a habit.

It is impossible to state in what proportion of the cases, other than the true alcoholic psychoses, alcohol was the main factor. There can be little doubt that it was the determining agent in some cases, but in others it was probably only a coincidence, and in a certain number may have been a symptom rather than a cause. In an estimation of the value of such figures prejudice sometimes enters. The ardent advocate of total abstinence would see in them justification of extravagant claims as to the relationship of alcohol and insanity. Some intemperate advocates of so-called temperance have made use of just such figures. In estimating their importance we must not lose sight of the wide prevalence of the drink habit. A pertinent question might well be: Is the proportion of cases with alcoholic history among the insane any higher, if as high, as among an equal number of normal individuals? Without having access to any statistics relative to the drink habit among the sane, the writer ventures the assertion, based merely on his own observation, that there are more than thirty-two per cent of the sane who are not in the total abstinence class and who may be said to drink occasionally, at least.

There is reason for believing that persons who become insane from alcoholism have an unstable nervous make-up. Epileptics and feeble-minded individuals are unduly susceptible to drink, and such people make up a large proportion of those who become insane from this cause. Mott, the pathologist of the London County Asylums (Archives of Neurology 1907,) has shown that the number of cases of cirrhosis of the liver coming to autopsy in alcoholic cases, in asylums, is very small and from this draws the conclusion that only persons of comparatively stable nervous constitution can drink enough to cause this condition. This goes to prove that comparatively little alcohol is required to produce a psychosis in persons of weak nervous organization. If this be true, the constitutional make-up is an important factor and alcohol may be merely an exciting cause. This does not detract materially from its influence in the production of insanity, however, for if it were not for over-indulgence many of these cases would not become insane. Many of them recover when alcohol is withheld and lead more or less useful lives as long as they abstain, only to be re-committed as soon as they relapse to their old habits. The statis-

tics of the New York State Hospitals for the year ending September 30th, 1908, show that thirteen per cent of all cases of alcoholic psychoses occurred in persons of defective or inferior constitutional make-up. Out of 600 cases eighty were defective or inferior. These figures are too small to warrant a conclusion, but indicate that the constitutional make-up should be taken into consideration. The instability which predisposes to alcoholic psychoses may not be sufficient to warrant a patient's being considered defective or inferior and it may be difficult to specify in what the weakness consists further than to state that an undue susceptibility to the effects of alcohol may be considered an evidence of weak nervous make-up. Mott (*Archives of Neurology*, 1907) states, "The quantity of alcohol which is daily consumed by the pillars of society is quite sufficient to convert an epileptic or potential lunatic or certain feeble-minded individuals into criminals or certifiable lunatics." He quotes from the report of Dr. Branthwaite, Inspector of Inebriate Asylums in England, as follows: "I am satisfied that the majority of our insane inebriates have become alcoholic because of congenital defects or tendency to insanity; not insane as the result of alcoholism, and that the drunkenness which preceded alcoholic insanity was merely the herald, the only obvious sign, of incipient mental disorder. In relation to the final insanity, drunkenness in such cases is the intensifier, perhaps, but not the cause of the disease." This is a subject which may well be considered, and the alcoholic cases should be studied with respect to neurotic, insane, epileptic and alcoholic heredity, constitutional make-up and the association of alcoholism with other etiological factors, before definite conclusions are drawn.

The association of alcohol with other etiological factors is discussed by Coupland (*Journal of Medical Science*, January, 1910.) In a study of first admissions to asylums in England and Wales in 1907 he shows that alcoholism is associated with other factors in the following order of frequency: In males; sexual excess, syphilis, alcoholic heredity, privation, insane heredity, prolonged mental stress, injuries, cardio-vascular degeneration, sudden mental stress, valvular heart disease. In females in the following order; syphilis, alcoholic heredity, climacteric, cardio-vascular degeneration, lesions of the brain.

This tends to show that susceptibility to the effect of alcoholism

depends upon other factors besides constitutional make-up. Alcoholism often leads to the debauch from which syphilis is acquired and syphilis is more intractable in alcoholic subjects. It is possible that syphilis may affect the nervous system in such a way as to make it more vulnerable to the effects of alcohol. Likewise, arteriosclerosis which may result from syphilis or alcoholism, may render the individual more susceptible. Chronic nephritis and organic disease of the brain also lower the resisting power to alcohol. A good many cases occur about the climacteric, when comparatively little alcohol may cause a mental upset. The effect of these factors taken in connection with constitutional make-up and alcoholic habits should be studied more carefully, and their proper estimation will do much to establish the true relationship of alcoholism and insanity. Such questions can only be worked out by a careful study of the facts in the individual case because statistics based on careless observation are worthless. The present method of collecting statistics in this State, where each point in the statistical data is made the subject of discussion by the entire hospital staff before it is put on record, will in time make possible the accumulation of extremely valuable data on this point, as well as on the etiology of insanity in general.

Alcoholic insanity may be divided into the following groups: alcoholic hallucinosis, alcoholic paranoic conditions, alcoholic deterioration, alcoholic pseudo-paresis, Korsakow's psychosis. These groups are often subdivided and others added, but the grouping is chiefly useful for descriptive purposes, and in practice, symptoms of all the groups may be found in the same case so that the classification of the individual case depends to a great extent on the special prominence and intensity of certain symptoms.

Delirium tremens, the most common manifestation of alcoholism, may be classed as an acute and intense alcohol hallucinosis with clouding of consciousness. A separate heading is often given delirium tremens in the classification of alcoholic insanity, but as the dividing line between such cases and those ordinarily classed as hallucinosis is difficult to trace, it seems better to consider delirium tremens simply as a form of alcoholic hallucinosis with sudden onset, great intensity of symptoms and a rapid clearing up. Comparatively few such cases reach the State Hospitals, and of those that do, many have cleared up by the

time the hospital is reached and the others recover in a few days, as a rule. The prognosis is good for recovery from the individual attack, and for permanent recovery if alcohol is altogether abandoned. Sometimes, repeated attacks of this kind prepare the way for a more intractable hallucinatory condition.

The following case is fairly representative of the group of alcoholic hallucinosis:

W. E., aged twenty-three, single, United States, laborer, common school education, began to drink at the age of fourteen, and for several months previous to his admission to Willard, in April 1903, drank whiskey to excess, often a quart of a very cheap quality, every day. He became suspicious of his fellow workmen, feared they would kill him, then became disturbed, refused to take medicine, thinking it was poison, slept poorly, declared something had been put in his bed, called for the police, and **saw animals crawling** about his feet. Then, clad only in his night clothes, he jumped from the second story window and ran to the house of a priest and refused to return because of a belief that there were people at his home waiting to murder him. This led to his commitment. On admission, he was depressed, but well oriented and able to give a good account of his history. He said the people where he worked talked about him; that he felt weak and nervous after being in the factory; that at home his relatives were against him; that carbolic acid was put in his food and electricity applied to his body. He also complained of insects crawling in his bed. From the time of admission until November 1904, when he eloped, he was subject to variations of mood, sometimes being depressed, when he attempted suicide, and at others excitable and violent. He was generally surly, easily irritated, idle, and only occasionally showed insight into his condition. After escaping, he made his way to Buffalo, Chicago, Missouri and San Francisco, in each of which places he worked for a time and then gradually made his way east and was next heard of in Auburn, in poor physical condition, nervous, unable to sleep and drinking heavily. He next appeared in Lyons and then in Syracuse, after which he returned home, where he expressed his former persecutory ideas; accused his mother of poisoning him and turning him away from home; claimed he was snubbed by his neighbors, and soon left home. After working for short periods in various places he again appeared at home in November 1906, when he complained of seeing men with revolvers about the house at night who were plotting to shoot, hang, or tar and feather him; refused to eat, fearing poison; walked the floor constantly and begged his mother for protection. He finally gave himself up to the police, declaring he was unable to work or sleep and that he wanted to "get rid of the booze." He was locked up in the County jail, where he became violent, assaulted other prisoners, ran his head against the wall, attempted to bite, refused to answer questions, took no food, and was recommitted in December 1906. At the time of the second admission

he was quite well oriented, talked readily, gave a good account of his symptoms, and showed partial insight. He complained of hearing a voice in his head which gave him commands which he had to obey, and attributed this voice to the medicine he received when in the jail. He told of taking something in his coffee which interfered with his sleeping and made him unfit for work, and of seeing his dead sister who told him he was to die. This patient is still at Willard in an unimproved condition.

This case shows the coexistence of hallucinations and persecutory delusions which is common. In fact, the case may with propriety be described either as an alcoholic paranoic or delusional state with hallucinosis, or as an alcoholic hallucinosis with the development of a paranoic or delusional state which illustrates the futility of fine distinctions in grouping such cases, as well as the uselessness of attempting to tag every case of insanity with a one-word diagnosis. Many of these cases recover in a short time, and some become chronic, as in the one cited.

The next case shows a delusional state not dependent on hallucinosis, occurring in a man of little education, about sixty-eight years of age, who had been married for forty years to a woman of his own age, and had been addicted to the daily consumption of liquor from early life, often going on prolonged sprees. Two years before his admission to Willard in February 1909, he began to suspect his wife's fidelity. About that time his eldest daughter died of tuberculosis, and he expressed the opinion that a consumptive insurance agent who visited at his home years before, was the father of this child because there was no history of tuberculosis in his own or his wife's family. He admitted he had never caught his wife in a compromising position, but he suspected her of improper actions because of her disorderly appearance at times and because she frequently "went downstreet," and admitted that though he had often followed her he had been unable to detect her in wrong-doing. He attributed his commitment to his wife, who he thought wanted to get him out of the way in order to resume her illegitimate intercourse with other men. Physically he showed some tremor of the tongue, hands and facial muscles, thickening of the radial arteries with increased tension and some hyaline and granular casts in the urine.

Such cases as these are more frequently found in persons who have indulged heavily in alcoholic beverages for years. The occurrence of ideas of suspicion and infidelity relative to his wife, which is a rather characteristic alcoholic mental symptom,

in a man past middle age with evidence of renal and arterial changes, should be emphasized.

The next case is cited to illustrate another combination of symptoms which could only be differentiated from general paresis with great difficulty, if at all, before the Wasserman test and the examination of the cerebro-spinal fluid was introduced.

W. B., aged fifty-three, farm laborer, whose maternal grandmother and mother were insane, and whose father and one brother were inebriates, had gonorrhoea fifteen years ago with a history of a general eruption about the same time, and presented a scar on the penis at time of admission, August 1908. He had used alcohol to excess for a number of years. One year before admission he refused to work, said he had thirty thousand dollars in the bank; talked of buying automobiles; wandered about aimlessly, was easily influenced by strangers, used profane and obscene language, and talked about marrying the belle of the county in which he lived. On admission, he elaborated on these ideas and showed considerable speech defect, fine tremor of the tongue, exaggerated knee jerks, some unsteadiness of gait, and a marked feeling of well-being and self-satisfaction without insight, but with fair orientation and with no abnormality in pupillary reactions. His handwriting showed tremor and the omission of letters. The patient cleared up rapidly, and was discharged a few months after admission.

This case, from the neurological symptoms suggestive of paresis, belongs to the so-called alcoholic pseudo-paresis group. Formerly we had no possible means of diagnosis in such cases and could only wait for the outcome; if the patient recovered, the diagnosis of alcoholic insanity was made, and if it progressed unfavorably with the development of more marked evidences of paresis, it was so classed. As already stated, the occurrence of lymphocytosis in the cerebro-spinal fluid and a positive Wasserman reaction clears up such cases by enabling us to class them as syphilitic and therefore paretic at once.

The next case is typical of the alcoholic polyneuritic-complex first described by Korsakow.

H. G., aged fifty-six, tinsmith, widower, a native of the United States, admitted to Willard August 1905. Family history was negative. Personal history showed nothing of importance except that he had always been a steady drinker, had acquired syphilis fourteen years before admission and for three years had done no regular work and had been a "roust-about in a saloon." Six weeks before admission he complained of weakness in his legs and his speech was peculiar. He soon lost the use of

his legs and hands and was placed in a general hospital where he was only kept a few days on account of his great restlessness. He was brought to Willard in a wheel-chair as his legs were paralyzed. On admission, he was quiet and good-natured, but completely disoriented for time, place and persons, and unable to give any rational or connected account of the immediate past, supplying the gaps by freely fabricating; while his memory for early life was quite reliable. The following is a sample of his replies to questions at that time: Are you sick? "Yes, I don't feel well." What is the matter? "Well, I am weak and don't have an appetite, but I am working right along." What will you do here? "I don't know, I suppose just what they ask me." Why did you come here? "I came up here this afternoon as I thought I might see you here. Somebody was talking about a fire and I thought I would come up and see it." Did you see it? "No." Are you able to work? "Yes, able to do a fair day's work." Do you drink? "Yes some." How much? "Well, I might take a drink to day and not again in two weeks." Have you had any to day? "Yes, one." How long will you stay with us? "Why I am going back to night; I came up to look over some work I am going to do to morrow." Physically, he showed atrophy of the forearm and hand muscles, especially of the extensors, with contraction of the little and ring fingers, with wrist drop; atrophy of the muscles of the calf, paralysis of the legs, foot drop, absent knee and elbow jerks, and complained of painful cramps in the calf muscles and also in the forearms. There was some nystagmus when the eyes were turned outward to the limit. He had difficulty in holding anything in his hands, objects being fumbled and dropped. He complained of numbness in the hands and legs. Fibrillary twitching was present in the muscles of the forearms and legs. There was tremor of the tongue and a coarse jerky tremor of the hands. The reflexes of the bladder and rectum were partially lost, so that he was frequently wet and soiled. Tactile and pain sense were blunted over the arms and legs. This patient improved slowly and ultimately recovered from the neuritis with the exception of some contractures, but still shows memory defect and a tendency to fabricate.

The essential features in this case are the multiple neuritis of alcoholic origin, the loss of memory for recent events and the peculiar tendency to fill in the gaps with pure fabrications. The Korsakow mental complex is sometimes present without multiple neuritis, at least without well-marked evidences of this condition and it is not always, though it is generally, of alcoholic origin. Tuberculosis, poisoning by arsenic, carbon bi-sulphide and lead, uterine sepsis, profound anaemia, typhoid, influenza, head injury and brain tumor have all been reported as responsible for some cases of this peculiar affection. The fact that such conditions may at times be the cause does not detract from the position

of alcohol as by far the most common cause. In this form of insanity, mental weakness does not seem to be a frequent predisposing factor. The subjects of the polyneuritic psychosis belong, on the whole, to better types and are not to be regarded as degenerates who succumb easily to the effects of alcohol. Such patients have usually drunk long and heavily and the Korsakow psychosis may therefore be regarded as one due primarily to excessive drinking, and in which the other factors mentioned do not play so important a part.

In addition to the groups I have endeavored to illustrate there is that of alcoholic deterioration or dementia, in which the long continued overindulgence in drink produces a more or less profound dementia without other pronounced mental symptoms. In my opinion alcohol should not be regarded as the sole factor in many of these dementing forms. Very frequently it will be found associated with cardio-vascular or renal changes and sometimes with an oncoming senile condition which may play quite as important a part as the alcoholic habit.

In this paper I have endeavored to discuss very briefly certain phases of alcoholic insanity which are well known to physicians engaged in the care of the insane, but may be of some interest to those in general practice. In considering the relationship of alcoholism to insanity it has been my intention to present the subject fairly without making any unwarranted statements. I have endeavored to show that while alcohol is a factor in the production of insanity, it is only one of many and that even in the forms of insanity commonly considered as due to alcohol, every factor must be given due weight. The exact bearing of alcoholism on the development of insanity is not yet known. I have no intention to minimize its importance, however, and while I believe that alcohol is more potent in filling our poorhouses and penal institutions than our asylums, it seems to me that, as physicians, we should do all in our power to educate the people on the possibilities of danger in this direction. Certainly we should discourage drinking among those who are hereditarily predisposed, or among the weak-minded and epileptic, because we know that in such cases alcohol is truly a poison and frequently converts such people into dangerous and unsocial lunatics.

ADDRESS TO THE GRADUATING CLASS OF THE
ALBANY GUILD FOR THE CARE OF THE SICK,*May, 1910.*

BY SPENCER L. DAWES, M. D.

One can say without fear of contradiction that this is an age of progress. It is not many years ago when a journey from New York to Albany involved travelling by sailing vessel, or by stage coach, or by both, and several nights spent on the road, yet now a few hours spent on a comfortable train suffices. We read that within a comparatively short time competent mathematicians proved by their figures that no vessel could be built which could hold enough coal to carry her across the Atlantic ocean under her own steam, and now we are speculating on four-day steamers. Within ten years an automobile was rare enough to be stared at, and now there are registered over one hundred thousand in New York State alone. Wireless telegraphy has annihilated space, and the conquest of the air is confidently predicted at an early date. In no line, however, has there been greater progress than in the care of the sick. I can remember that to have what was called a "trained nurse" when ill was as unusual as were operations for appendicitis, and twenty-five years ago the latter were unknown, yet now a nurse is considered almost as much of a necessity as is the physician, and she is almost as popular as is the removal of the appendix.

Nowhere, and I say this after mature consideration and careful thought, is a well-trained nurse of more use than in the homes of the actually poor and among people of very small means, and nowhere, let me add, is a poorly trained, incompetent one capable of doing more harm.

We have the highly trained hospital nurse, the aristocrat of the profession, who, by reason of long study and superior educational advantages, very properly commands fees which only the rich or well-to-do can pay—but what of the poor who can pay nothing? What of the man of small means whose week's wages are less by considerable than the bare salary of such a nurse? Are not these as worthy, their lives just as valuable, the sufferings of their loved ones just as real and fully as deserving of the tender ministrations of a nurse as are the rich man's? I know

that there are doctors and nurses who look askance at Guild and Certified nurses; who say that allowing any but the best to be licensed lowers the standard and dignity of the profession, and that they should not be countenanced. So, too, I know of doctors who say that the smaller medical colleges which give a chance to men of moderate means and limited education to learn the practice of medicine are undesirable. My answer is that just as we must have a strong but properly made plow to turn the sod and a light and comparatively expensive spade to make the garden with, so must we have kinds and classes of doctors and kinds and classes of nurses, each for his own labor fitted, each for his own task prepared.

No man who has spent four years in a literary college and four years more in a medical school, a year or two in a hospital and perhaps a year more in the laboratory does so with the intention of going to some rural community to breast the winter's storms on the mountain side, taking his pay in hay, in cord-wood or turnips, or to eke out a precarious existence among the poor of a great city, and the same rule holds good among nurses—and that is the justification for the smaller medical schools and for the kind of nurses which the Guild is giving us.

But do not for a moment mistake my position. I am not advocating the exploitation of ignorance nor of insufficient education or training. Just as there are medical colleges whose sole reason for existence is the granting of diplomas, the turning out of illy-educated, poorly-trained men to prey upon the helpless public, so there are so-called training schools for nurses, correspondence schools I might almost say, which give a few weeks or months at the most of instruction by word of mouth without the advantage of practical bedside experience, and then turn their "graduates" loose with high sounding titles, wise in their own conceit, incapable and incompetent, dangerous in pretending to know all while knowing little. These kinds of medical schools and training schools I deplore, for I believe that they do almost as much harm as the well-trained doctors and nurses can do of good, and did I not know that you who are to receive certificates here to-night have had careful training both by lectures and bedside instruction, by doing as well as hearing, by practice as well as precept, did I not know exactly to which class you belonged, I should not be talking to you this evening.

Your opportunity is before you. It is for you to say whether the earnest, enthusiastic women who stand for the greatest, the most worthy charity in the City of Albany, whether the self-sacrificing teachers who have given of their best to instruct you shall be able to say—these are our justification, these the reasons for our organization.

As Kipling said: "Every sane human being is agreed that this long-drawn fight for time that we call life is one of the most important things in the world. It follows, therefore, that you who control and oversee this fight and will re-enforce it must be among the most important people in the world. Certainly the world will treat you on that basis. It has long ago decided that you have no working hours that anybody is bound to respect, and nothing but extreme bodily illness will excuse you in its eyes from refusing to help a man who thinks he may need your help at any hour of the day or night.

"Nobody will care whether you are in your bed, or in your bath, or on your holiday or at the theatre—if any one of the children of men has a pain or a hurt in him you will be summoned. And as you know, what little vitality you may have accumulated in your leisure will be dragged out of you again.

"In all times of flood, fire, famine, plague, pestilence, battle, murder and sudden death it will be required of you that you report for duty at once, that you go on duty at once and that you stay on duty until your strength fails you or your conscience relieves you, whichever may be the longer period. This is your portion. These are some of your obligations, and I do not think they will grow any lighter."

I have heard of no legislative limit to your output, no bill for an eight hour day for nurses with a Saturday half-holiday and a vacation in the Summer with full pay.

"It seems to be required of you that you must save others. It is nowhere laid down that you need save yourselves. That is to say, you belong to the privileged classes."

It is not for me to instruct you in what your duties are nor for me to specify how you shall carry out your obligations, for if you have not already learned them you never will. It seems to me, however, that I can do you no greater service than to tell the public some of the things you have had to do, how you

have worked to gain the certificates which come to you to-night, and some of the qualifications which a good nurse should have.

Those who apply for the training which the Guild offers, are told that they must first be taken on three months probation in which time they may learn their duties and consider whether they will agree to take the two years course of instruction provided. If they do so decide, they are given instruction both practical and theoretical in nursing and in anatomy, physiology and hygiene, and courses of lectures are given by physicians in more than twenty divisions and subdivisions of allied branches, lectures especially adapted to the needs of a certified nurse. Each student learns in the diet kitchen methods of preparing food for the sick, and she is required to make daily rounds with the graduate nurses, visiting the homes of the sick and learning by actual experience at the bedside what a nurse must do. Not only must she care for the actually sick, giving them their medicines, reading to them and amusing them, but often she is left in entire charge of the house and she finds herself obliged to cook the meals, sweep and scrub the floors, to wash the children and send them to school, to mend their clothes, to teach the entire family that fresh air, sunshine and cleanliness are prerequisites to health and to recovery from disease. Often she must use her influence to change the moral tone of the home and to lift the family from the depths of moral degradation to the purer atmosphere of decency and righteous living. She must be a person of infinite tact, of great patience, of quiet perseverance and of tender sympathy. She must be a constant student of human nature and recognize at the very beginning of her work that no two cases are ever alike and consequently each case requires different treatment. She must ever repeat to herself that rhyme of Mr. John D. Rockefeller's which goes like this—

"A wise old owl sat on an oak:
The more he saw the less he spoke:
The more he spoke the less he heard.
Why can't you be like that wise old bird?"

Her life is one of toil, of self-restraint, of constant sacrifice, of bitter disappointment, of mortification and of frequent humiliation, a life in which self is always last and never first. She must put her timidity in her pocket and lock up her maidenly

modesty in the innermost recesses of her heart, and go down into the slums, into the dens of iniquity at duty's call with never a word of protest,

"Filled to the lips with the ardour of youth,
With the latent power and love of truth,
And with virtues fervent and manifold."

Yet nowhere does reward come quicker, nowhere does just recompense tread closer on the heels of honest endeavor. I have seen the appearance of a nurse in uniform still the curses on a ruffian's lips, I have seen her entrance into some brothel be the signal for respectful and decent behavior on the part of her erring sisters, I have known her soothing touch and gentle word bring tears of repentance to the sinner's eyes and confession to his lips. And never in all my practice as a physician in considerably over twenty years, have I known an insult to be offered to a nurse nor has she been in danger in parts where strong men feared to go. Excepting only the priest and the Sisters of Charity, no class of individual receives or commands more respect, ungrudgingly given than the class that wears the nurse's uniform.

That is the kind of work which prepares these graduates to be, for the position of Certified nurse.

Not long ago in addressing a graduating class of nurses at a hospital in another city, I told them of the qualifications which experience had told me are desirable in nurses of all classes, and I am going to repeat them to you with some omissions and additions.

Many a nurse fails because she is impatient of authority and does not follow with sufficient care and attention the orders given her. So rare is the occasion on which she would be justified in disobeying or changing an order that it is possible to lay down the following rule: "No order may be changed, altered, modified or disregarded without the permission of the one in charge." It may, and I am quite of the opinion that it will, occur to you on more than one occasion—and very likely with apparent good reason, too—that you can alter the treatment with benefit to the patient; but do not do it, for you are not a physician; you are learned neither in therapeutics, diagnosis or prognosis; you are simply an instrument in the doctor's hands—of help or hindrance, just as you heed or slight your orders.

A very common failing is gossiping with your friends, or your patients, or your favorite doctor, about other patients, or other doctors. There is nothing that will sooner ruin the reputation of a nurse than to have it said, "She talks too much." Remember that "Speech is the instrument by which a fool is distinguished from a philosopher." If you tell Mrs. A. how very sick Mrs. B. was when you attended her, how skillful your care was, and how difficult she was to get along with—no matter how innocent your tale may be—Mrs. A. will reason, and very properly, that you will describe *her* case to Mrs. C. If, when you are taking care of a patient for Dr. Jones, you sing the praises of that paragon of doctors, Dr. Brown, you will very quickly find that Dr. Jones gives you no more calls, and Dr. Brown will not thank you for what you have said of him.

If I were asked what quality is most needed in a nurse to make her successful, I would answer that just as "Cleanliness is next to Godliness," so is tact next to honesty. You may be skillful, learned, strong, faithful, true, patient and persevering; yet, if you have not tact, I do not want you for a nurse. You may not be tactful by nature, but if you wish you can, by constant endeavor, acquire that attribute, and with all the force at my command, I charge you to cultivate, to nurse, and to foster whatever of tact, be it much or little, it has pleased God to give you.

For some of you, the hardest lesson that you will have to learn will be to keep your tempers, for there is hardly an hour in a nurse's life when some trial to her temper does not arise: The doctor criticises you in the presence of the patient, when you have tried your very best; the patient is cross and querulous and finds fault with all you do; you are made to lose your sleep without good reason; your meals are cold; you are blamed for things you have not done; you are slighted and snubbed and treated without consideration; you are subjected to the whims of a patient who may be less ill than you are, and yet, hard as it seems, you must preserve your balance, you must not lose your temper,—but if you *should* lose it, and I say this most feelingly, and with great emphasis, for no one is better versed in tempers than I am, be very sure to lose it in a place where no one can ever find it but yourself.

A very common cause for complaint about nurses is that they

upset domestic arrangements, either through a false idea of their own importance or a lack of consideration for others. They feel, and quite properly, by-the-way, that they are "just as good" as their employer, and also—quite as improperly, let me add—that they are a little better than the servants, the consequence being that they are like a cinder between the eyelid and the eye—a constant source of irritation, only endured until they can be cast out. But for this unhappy tendency the trained nurse would be much more in demand than she now is. Within a few hours of this writing a woman said to me, after having discharged a very capable trained nurse. "Thank goodness, I'm rid of her. The one before her did nothing but make the servants run and wait upon her, demanding all kinds of unnecessary things, and this one divided her time between visiting with the cook and inspecting the contents of the refrigerator to see if there was anything there she liked. May I never have to employ another!" Remember that while, theoretically, you *are* "just as good as anybody," you are, in fact, not one whit better than your actions show you to be, and that your chief asset is your popularity.

Unfortunately, the American voice is usually pitched on a high, and not always musical, key. If you have ever been ill and forced to listen, day after day, to a rasping, piercing voice, I am sure you will agree with me that one of the first duties of a nurse is to acquire, if she does not already possess it, that "most excellent thing in a woman," a low, sweet voice. But do not whisper in the sick room, for of all abominable, annoying and irritating things, this is the very worst I know of.

However frightened you may be; however much you may be disturbed at your patient's condition; however much you may be alarmed by some sudden change, preserve at least an outward appearance of calmness, not letting your patient for an instant suspect that you are in the least upset, for that may be his undoing as well as yours. Calmness of demeanor and an unruffled serenity have often more to do with a patient's recovery than powders, pills and potions. Always seem happy and contented even if you are not, and never tell your patient or his family your own troubles or personal grievances. He is not interested in them and does not want to hear them; in fact, he would much rather talk about—what you should *just* as much avoid—his own aches and pains.

Personal appearance is a factor which should not be overlooked. See that your dress is neat, clean, and wellfitting, and that you look as attractive and pretty as you possibly can, for that will not only make you much better satisfied with yourself as well as popular with your patient.

Think over very carefully and define very accurately in your own mind what your "rights" are, and then, *never insist upon them*. When you yield them, as you will often be compelled to do, yield them gracefully, not in a sullen and reluctant manner; yet, at the same time, you can let it be very clearly understood that you have given up something that was your just due, for there is no one who is absolutely independent in fact, and the one who stands apart and says, "I will" and "I won't," "You shall" and "You shan't," "This is mine and I will have it," will soon be poor in friends and rich in enemies; will be a nurse of last resort and not of first selection.

While you should be, and most nurses are, charitable, don't work for nothing; don't give your energy, your best endeavor, your life, to the people (and I am sorry to say that there are many of them) who are well able to pay you your pittance—for that is what it really is—and who ask you to serve them at a reduced price. "The laborer is worthy of his hire," and at the best your pay is small, your hours are long, and your work is hard.

Never tell your patient anything but the truth. If you can't tell him that, tell him nothing. I well remember, as I look back over more than a score of years of active practice, of my dear father—a far wiser man and better doctor than I can ever hope to be—telling me what I, in the bumptiousness of youth, was much amused to hear, but what experience has taught me was the height of wisdom. He said to me, as I have said to you, "Tell your patients nothing but the truth," and he also said, "Never promise your patient that he will have recovered by a certain day; that he will surely recover; that he will be free from pain; in fact, *promise* him nothing; but tell him that you hope, you believe, you trust, that he may have his desire; for, if you tell him an untruth he will surely find it out, and if you make him a promise the chances are that it will not come to pass, and he will lose all faith either in your judgment or in your integrity, or in both."

We, as practitioners of medicine, must freely acknowledge that many times the favorable termination of a case which has meant so much to the doctor, for which he has received so much praise, could never have occurred without the services of some faithful, unselfish woman, who has modestly stood in the background while he has occupied the center of the stage, in the full glare of the footlights.

Let me offer to the Guild for the Care of the Sick, the earnest and heartfelt thanks of this community in general and of the medical profession in particular for giving to us the capable, competent and earnest workers, the assistants in our fight against disease and suffering that they have been providing for upwards of twenty years. Let me felicitate them that they are receiving recognition of their efforts and of their success not only at home but abroad, so that they are being asked to instruct workers in distant cities how to establish organizations on similar lines, and at the same time let me congratulate the women who have been concerned in that work for two years past that they have been found worthy to hold a certificate from the Guild, and to urge them to guard its good name and add lustre to its possession.

In closing I want to give to you a motto, to offer to you a quotation for your guidance to which no one, be he Jew or Gentile, Christian or Turk, Catholic or Unbeliever can take exception, a guide which if lived up to will make your life a success, the words of that holy man, Thomas À Kempis—

“Go where thou wilt: Seek what thou wilt: Thou shalt not find a higher way above, nor a safer way below, than the way of the Holy Cross: and dost thou then seek another way than this royal way which is the way of the Holy Cross?”

Clinical and Pathological Notes

Unusual Vision in an Epileptic. By CHRISTIAN G. HACKER, M. D.

Read before the Medical Society of the County of Albany, January 19, 1910.

Mr. President, Gentlemen: In presenting to you for consideration the report of this case which is one of grande mal epilepsy with an unusual visual power and kleptomania, I do not pretend to add anything new to the literature relating to

epilepsy, but this patient's ocular powers are so acute and unusual that I believed the case of sufficient importance to present before a body of medical men for observation, examination and discussion with a hope of explaining his peculiar visual phenomena.

My first acquaintance with this case was on March 23, 1908, when while calling on another patient in the house where this boy resides, he attracted my attention on account of a large burn upon his face, which upon inquiry I found he had received by falling upon a hot stove during a fit. I became interested and in the course of my examination I found that he was able to read with letters inverted quite as well as in the usual manner.

History. W. A. S., aged 18 years, born in U. S. Single. Without regular occupation and as a result of fits he has not attended school for the past five years.

Family History is absolutely negative as regards the predisposing causes, intermarriage or syphilis. There is a paternal history of moderate alcoholism. Father of the patient is alive and well, temperate in his habits, unusually intelligent mechanic and of fine athletic build. The mother is living, an extremely nervous woman. This state is said to have followed soon after the birth of her first child. This boy is the third child. Mother has had nine living children and one still-born child. Six children are living and well, five boys and one girl. One child died soon after birth of pneumonia. One child died aged 13 months of diphtheria. One child died aged four of meningitis from an old otitis media. The history previous to birth is absolutely negative and without history of violent emotion during pregnancy or of accident. The birth was a very easy one and normal, requiring no forceps, and no deformity of the skull was observed.

Epilepsy, Kleptomania and Vision. From the time of birth up to his first attack he suffered no serious fall or injury. He was a breast-fed baby. Dentition began somewhat late, *i. e.*, at the eleventh month, but was otherwise normal, without any reflex disturbance, and he had all his teeth before the age of two years. Diligent and frequent questioning reveals no exciting cause such as intestinal worms, exposure to the sun, infectious diseases, etc. Previous history as regards patient: he has been practically well during his entire life except for fits;

appetite always excellent, bowels regular. Habits: never used tobacco in any manner, nor alcohol; no history of masturbation. He has always been unusually proficient in spelling and could spell the most difficult words especially medical terms; has always had a wonderful memory but lately this has failed in some respects; he has had numerous petit mal attacks during which he will pilfer and steal, after which he recollects nothing. Occasionally he has a dismal recollection. He has been arrested for his acts, confined in jail, and after regaining more his normal mentality has attempted suicide in his remorse. He is industrious and will work hard. I have always found him accommodating and a gentleman. During certain intervals he shows a low mental state by repeatedly stuffing his rectum full of matches and straws.

Epileptic History. The day following vaccination at the age of three years he had a general convulsion; at this time the spasmodic contractures lasted $7\frac{1}{2}$ hours, after these ceased he went into a deep sleep, his eyes remaining widely open. During the following seven years, *i. e.*, from three until ten, these convulsions returned at intervals of six months, having the same character as the initial one. Often his parents noticed as a child that he would lose things, suffer attacks of nausea and staggering. From the tenth until the twelfth year these attacks returned every three months and as time progressed they gradually became more severe and more often and at the present time he frequently has from one to two seizures every day. Twice between the ages of ten and eighteen years he has remained free from attacks for a period of nine months. At the age of ten circumcision performed with no benefit. This boy was a patient under treatment at Craig Colony for Epileptics at the age of fifteen years for a period of thirteen months when he escaped from the institution and by using the suggestion wired to the authorities by his father that he would probably be found upon the streets reading for groups of people with his letters inverted, for small sums. He was found upon the streets of a city in the western part of the State. He was a patient again at Craig Colony a second time at the age of $16\frac{1}{2}$ years for about three months when he again escaped and made his way home on a freight train. During this last stay at the Colony a resident officer noted his ability to read in this unusual manner and asked permission of the parents to exhibit him before a medical society at Buffalo. This was refused.

The Convulsion. After careful questioning I found that this patient has never experienced an aura or given a preceding cry. He has never bitten his tongue but has frequently frothed from his mouth during attacks. The onset is shown by clapping his right leg with his right hand, at the same time making a peculiar noise with his throat as if to vomit; he then falls and at once, goes into a tonic convulsion followed by clonic general contractions of all his muscles during which time he is unconscious. During these seizures he frequently has involuntary loss of urine and foeces. Following the convulsion he is greatly fatigued and desires to sleep.

History of Peculiar Vision. Shortly after the age of three years, while learning his letters, it was noticed that he would read them inverted, and at school he was frequently sent home for this peculiar and unusual custom, which he insisted was right, and at present he reads well in practically any position, inverted, or if printed matter is revolved around a pivot, he reads as readily as if it was in the usual position.

Physical Examination. Weight, 142 pounds; height, 5 ft. 9; complexion, dark; color of mucous membranes, normal; tongue thickly coated with a white fur, no tremor, on protrusion deviates slightly to the right; the jaws contain numerous partially decayed teeth, and a highly arched palate; nasal examination reveals atrophic rhinitis and in the post-nasal space numerous adenoids; there is quite marked asymmetry of the face; right side of the neck shows a scar anterior and one posterior to the upper third of the sterno-cleido-mastoid muscle—this the result of an operation performed at Craig Colony during his first stay there. The diagnosis given to the parents was abscesses and enlarged glands. The skull is rather characteristic in its shape and shows some general flattening over the left calvarium; he has a high narrow forehead; palpebral fissures narrow; pulse normal, as is also the heart and lungs; genitalia, left moderate varicocele; muscle strength of hands and legs normal and equal; knee jerks exaggerated slightly; no clonus, no Romberg symptom or Argyle-Robertson pupil; various senses normal; urinary examination normal.

This case is of interest for several reasons:

First, on account of its early onset, namely, at three years;

Second, on account of its close association with vaccination;

Third, on account of the fact that during no attack has he bitten his tongue;

Fourth, on account of the absence of an aura;

Fifth, on account of the kleptomaniac tendency;

Sixth, on account of the unusual visual powers.

As regards the literature, which would help me give you a bibliography, I have searched carefully and cannot find anything relating to inverted vision or any similar case with this peculiar group of conditions reported.

During our ocular examination Dr. C. H. Moore suggested that this boy had probably worked with a toy printing press and with practice had become efficient in inverted reading as a result thereof. The history given by his parents and himself disproves this. Dr. Moore also suggested this view that compositors are also quite adept. I have examined numerous compositors some.

Editorial

One night, I have been often told, I shewed great reluctance to be caught and put to bed; and after being chased about the room, was apprehended and consigned to my dormitory with some difficulty. It was the last time I was to show such personal agility. In the morning I was discovered to be affected with the fever which often accompanies the cutting of large teeth. It held me three days. On the fourth, when they went to bathe me as usual, they discovered that I had lost the power of my right leg. My grandfather, an excellent anatomist as well as physician, the late worthy Alexander Wood, and many others of the most respectable of the faculty were consulted. There appeared to be no dislocation or sprain; blisters and other topical remedies were applied in vain. When the efforts of regular physicians had been exhausted, without the slightest success, my anxious parents, during the course of many years, eagerly grasped at every prospect of cure which was held out by the promise of empirics, or of ancient ladies or gentlemen who conceived themselves entitled to recommend various remedies, some of which were of a nature sufficiently singular.

Autobiography.

SIR WALTER SCOTT.

Infantile
Paralysis.

A healthy child just passing out of infancy into active and independent life develops a slight coryza in the evening, shows some slight restlessness and fever during the night, and the next morning is found in bed by the parents hopelessly paralyzed and crippled in one or more limbs for life. This is the history of an attack of infantile paralysis, and this has been the cruel and unavoidable crisis which physicians have been unable to meet. In the last year or two, however, opportunities have been given for the study of this disease, some results of investigation have been obtained, and there is reason to believe that it may in due time be successfully met and its baneful effects anticipated and controlled.

The first element in the more hopeful outlook has been the somewhat paradoxical occurrence in the last decade of a very great increase in the number of cases of infantile paralysis, which has appeared in several localities in epidemic form. Several investigations have been conducted, and the State Board of Health of Massachusetts has already presented a preliminary study of 628 cases of the 923 which occurred in Massachusetts during the year 1909. Of these patients 363 were males and 263 were females, and 121 occurred at the age of two years, the earliest attack being that of a baby of three weeks, and the latest a patient of seventy-two years of age. Between two years and seven years inclusive, 364 cases occurred, showing the particular susceptibility of this period of life. The total death rate was eight per cent, and the mortality in patients over ten years of age was twenty per cent. Seventy-five per cent or more of the patients who survived were permanently crippled. This is in brief an indication of what may be expected in this disease.

A close analysis of 150 cases was carried on by the State Board of Health of Massachusetts for the purpose of establishing a basis for more careful and complete observation. The details of these studies are published by Dr. Robert W. Lovett in the *Boston Medical and Surgical Journal* of July 14, 1910, and this contribution should attract the attention of every physician. The following facts appear to be definitely established:

(1) That outbreaks of infantile paralysis have very greatly increased in several parts of the world in the last five years in a measure not to be explained in any way by the increased interest in the disease; (2) that it is more prevalent in cold

than in warm countries; (3) that from the northern part of the United States have been reported more cases than from any part of the world.

In view of the great interest now aroused in the subject of infantile paralysis, a further contribution on methods of treatment of this disease has been issued by the Orthopedic Department of the Harvard Medical School, and appears in the *Boston Medical and Surgical Journal* of June 30, 1910. The principles of treatment are towards the conservation of the limbs affected by the disease, and include various forms of mechanical training of the muscles to prevent deformity. Primarily these results are sought to be obtained by stimulating the muscles by electricity, by baking and different forms of high heat, and by hydrotherapy and massage. Undoubtedly the intelligent use of these methods goes a long way towards preventing the extreme deformities so often found. Permanent deformities, however, having occurred, tendon transplantation and other operative measures are very valuable.

The greatest hope, however, in the attack upon this disease is aroused by the preliminary statement recently made by Dr. Simon Flexner (*New York State Medical Journal*, July, 1910). After several disappointments he has succeeded, in a way, in identifying the virus. It is a filtrated virus whose organisms are so small that they cannot be resolved under the microscope and pass through the closest filter known. It is a virus which withstands great cold and may be kept frozen for many days—nearly two months. It will also stand drying for many days, and it belongs to the class of highly resistant viruses or organisms such as that of rabies or vaccinia. The method of admission into the body is not certain, and it is possible that the virus is transported by direct contact or by intermediate carriers. It is not improbable that in a great number of cases the invasion takes place through the nasopharynx. Dr. Flexner suggests the similarity of certain features of this disease to epidemic cerebro-spinal meningitis. In the elementary condition of the knowledge of the subject, no anti-toxin or antagonistic serum can yet be offered, but the study of the organism so far suggests the probable value of a prophylactic treatment, consisting of a disinfection of the upper air passages

and isolation, particularly in a community in which the disease has appeared.

All this is encouraging and justifies the hope that the deplorable results of this disease may eventually be anticipated, and that the disease itself may not continue an irremediable evil.

Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF HEALTH — ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, JULY, 1910.

Deaths.

Consumption	20
Typhoid fever	3
Scarlet fever	2
Measles	1
Whooping-cough	2
Diphtheria and croup	2
Grippe	0
Diarrheal diseases	33
Pneumonia	3
Broncho-pneumonia	9
Bright's disease	15
Apoplexy	10
Cancer	13
Accidents and violence	15
Deaths over seventy years	28
Deaths under one year	44
Total deaths	202
Death rate	23.77
Death rate less non-residents	20.71

Deaths in Institutions.

	Resident	Non-Resident
Albany Hospital	21	12
County House	4	1
Homeopathic Hospital	4	1
Home for the Friendless	1	0
Home for Aged Men	1	0
Hospital for Incurables	1	0
Little Sisters of the Poor	2	0
Public places	1	1

Penitentiary	0	2
St. Margaret's House	3	0
St. Peter's Hospital	8	6
Austin Maternity Hospital	3	1
Albany Hospital, Tuberculosis Pavilion	4	2
<hr/>		<hr/>
Total	53	26
Births	141	
Still births	5	
Premature births	1	

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

In the Bureau of Plumbing, Drainage and Ventilation there were two hundred seventy-one inspections made of which one hundred thirteen were of old houses and one hundred fifty-eight were of new houses. There were seventy-six iron drains laid, fifty-one connections to street sewers, fifty-one tile drains, one urinal, fifty-eight cesspools, eighty wash basins, one hundred eight sinks, eighty bath tubs, eighty-one washtrays, one butler's sink, four trap hoppers and one hundred thirty-six tank closets. There were one hundred sixty-eight permits issued of which one hundred twenty-one were for plumbing and forty-seven for building purposes. There were forty-six plans submitted of which eighteen were of old buildings and twenty-eight of new buildings. Sixty houses were tested, fifteen with blue or red, three with peppermint and forty-two water tests. Fifty houses were examined on complaint and eighty were re-examined. Twenty-three complaints were found to be valid and twenty-seven without cause.

BUREAU OF CONTAGIOUS DISEASE.

Cases Reported.

Typhoid fever	2
Scarlet fever	5
Diphtheria and croup	8
Chickenpox	4
Measles	3
Whooping-cough	5
Consumption	51
Total	78

Contagious Disease in Relation to Public Schools.

None reported.

Number of days quarantine for diphtheria:

Longest 33 Shortest 7 Average 18 2/12

Number of days quarantine for scarlet fever:

Longest 45 Shortest 9 Average 34

Fumigations:

Houses 34 Rooms 151

Cases of diphtheria reported 8

Cases of diphtheria in which antitoxin was used 7

Cases of diphtheria in which antitoxin was not used 1

Deaths after use of antitoxin 1

BENDER LABORATORY REPORT ON TUBERCULOSIS.

Positive	41
Negative	23
Failed	8
Total	72

TUBERCULOSIS.

Living cases on record July, 1910.	369
Reported during July, 1910:	
By telephone	0
By Bender	0
By card	40
	40
Dead cases reported by certificate.	8
	48
	417
Dead cases previously reported.	14
Dead cases not previously reported.	8
Duplicates	5
Recovered	0
Removed	0
Unaccounted for	35
	62

Living cases on record August 1, 1910.	355
Total tuberculosis death certificates filed July, 1910.	22

BUREAU OF PATHOLOGY.

Bender Laboratory Report on Diphtheria.

Initial positive	6
Initial negative	27
Release positive	16
Release negative	62
Failed	8
Total	119

Test of sputum for tuberculosis:

Initial positive	43
Initial negative	22

BUREAU OF MARKETS.

Market reinspections	119
Public market inspections.	25
Rendering establishments inspected.	3
Fish peddlers inspected.	1
Fish markets inspected.	7
Pork packing houses inspected.	3

MISCELLANEOUS.

Mercantile certificates issued to children.....	37
Factory certificates issued to children.....	29
Children's birth records on file.....	66
Number of written complaints of nuisances.....	73
Privy vaults	10
Plumbing	23
Other miscellaneous complaints.....	40
Total number of dead animals removed.....	1,367
Cases assigned to health physicians.....	84
Number of calls made.....	245

Society Proceedings

MEDICAL SOCIETY OF THE COUNTY OF ALBANY

At the rooms of the Albany Historical and Art Society, Wednesday evening, April 13, 1910, at the invitation of the Medical Society of the County of Albany, Dr. Louis Livingston Seaman, of New York, delivered a lecture, illustrated with his series of lantern slides, on "A Hunting Safari in British East Africa—with a short description of the Tsetse Fly and the Sleeping Sickness," and Dr. E. Porter Felt, State Entomologist, spoke on "The Dangers of the House Fly," "using lantern slides and the famous "Fly Pest Moving Picture Film," to illustrate his subject. The meeting was attended not only by the members of the Society but also by a large number of ladies and gentlemen of Albany. In the absence of Dr. MacFarlane, the Vice-President, Dr. Traver, introduced the speakers. At the close of the meeting Dr. Root voiced the appreciation of the audience, and moved a vote of thanks to the speakers. Motion carried.

Meeting adjourned at 11 p. m.

ANDREW MACFARLANE,
President.

JOSEPH A. LANAHAN,
Secretary.

A regular meeting of the Medical Society of the County of Albany was held at the Albany Medical College, Wednesday evening, April 27, 1910. The meeting was called to order at 8.30 p. m., Dr. MACFARLANE presiding. The following members were present: Drs. MacFarlane, Griffen, Lanahan, Travers, Hacker, Murray, Classen, Mereness, Sr., Jenkins, C. H. Moore, Ullman, Ryan, Fromm, Page, Vibbard, A. J. Bedell, Lomax, Houghton, Curtis, Herrick.

Minutes of last meeting read and adopted.

The Board of Censors reported the application of Dr. E. G. Bensen received but it having been received too late, action was postponed until next meeting.

Letter from Chairman of Legislation Committee of State Society read in reference to Federal Bureau of Health:

Dr. J. A. Lanahan, Secretary, Medical Society of the County of Albany, 99 Eagle Street, Albany, N. Y.:

APRIL 19, 1910.

Dear DOCTOR.—As you are aware, an effort is being made to concentrate the different health interests of the country into a Department of Health. A bill has been introduced, Senate Bill 6049, into the Senate of the United States by Mr. Owens for the establishment of such a department. It is desirable that the medical profession of this State take some active interest in the matter, and I would suggest that you as Secretary of your County Medical Society, write a letter to your congressman and the two senators from New York, urging the adoption of this measure.

It would help the cause if you would also have the different men in your County who have influence with your congressman, write urging the passage of this measure. In the *New York State Journal of Medicine* for March, 1910, you will see that the Society urged congress and the senate to organize a bureau, and these resolutions have already been forwarded to the senators and the congressmen.

A letter from you and from each member of your County Society to your senator and congressman will greatly assist in this campaign, and I trust you will give the matter your immediate attention.

Yours very truly,

FRANK VAN FLEET,
Chairman.

Dr. BEDELL moved that the Society go on record as favoring the bill, and that the Secretary be directed to notify the senators from New York and the representative from this district of the action of the Society. Carried.

SCIENTIFIC PROGRAM

General Anaesthesia,
Local Anaesthesia,

DR. GERALD GRIFFEN
DR. A. H. TRAVER

Dr. TRAVER said that anyone who has had much experience in operating in the country would appreciate Dr. Griffen's paper. He considered ether safer for the patient but not so safe for the operator. No question that house physicians should be better trained, when house doctors have just begun to learn the proper method they are changed and this is not to the patient's or the operator's advantage.

Dr. FROMM said that Dr. Griffen's modesty prevented him from describing several methods in which he believed Dr. Griffen was the pioneer. Spoke of mixed ether and oxygen method. Method specially pleased Dr. Mayo. Other method was use of stomach tube both in emergency cases and in cases prepared for operation, giving less nausea.

Dr. HACKER said Society owes thanks to both Dr. Traver and Dr. Griffen for papers, Impressed with Dr. Griffen's remarks regarding lack

of teaching. Adverted to the training given in the Boston City Hospital, the home of anesthesia. Third year students are required to serve under anesthetizers. Ether used in all cases, even where we are accustomed to consider it dangerous with no bad effects. He had used chloroform lately in a case with fatal results, and then used ether in all cases, but has had a death from ether narcosis. The drop method is the ideal method. A certain western surgeon visiting in Albany was so impressed with the use of the rubber dam that he introduced the method in his own hospital. Has used Alopen locally, influenced by its use by Dr. Willy Meyer. Spoke of use of local anaesthesia in gynecology.

Dr. GRIFFEN spoke of importance of training students. Neglect of eye as important symptom and attention to respiration as necessity, etc.

Dr. MACFARLANE said he was personally gratified at hearing both papers. Dr. Griffen's experience has been such that he can speak as an expert.

Dr. HACKER asked how the training of students will be of use if surgeons place anaesthetics in the hands of nurses. He was not prepared to say what was the law on the subject, but did not think nurses had the right to administer anaesthetics. He recalled the remark of Dr. Joseph Price when he saw so many nurses assisting at operations that every extra nurse meant one less young physician.

Dr. GRIFFEN said that on occasion when no house physician was available he had pressed into service an orderly who had seen him anaesthetize a great number of times. He did not think there was anything to justify a nurse in using anaesthetics. Dentists were not allowed to use general anaesthetics. The surgeon must assume all responsibility. What would happen in case of accident he did not know. A physician anaesthetist would divide with the operator the responsibility and would be better in case of danger. A nurse, because she is not trained in surgery might be less interested in the operation and more in the patient while a physician might interest himself also in the operation.

Every anaesthetist should understand the patient's condition, and as nurses were not trained in the physical examination necessary, the examination of the heart and lungs and urinalysis, he did not believe that anaesthetics should be given into their hands.

Meeting adjourned at 9.45 p. m.

ANDREW MACFARLANE,
President.

JOSEPH A. LANAHAN,
Secretary.

The annual meeting of the Medical Society of the County of Albany was held at the Albany Medical College, Wednesday evening, May 11, 1910. The meeting was called to order at 8.30 p. m., the Vice-President presiding. The minutes of the previous meeting were read and approved. The following members were present: Drs. Tucker, Traver, Lanahan, C. H. Moore, Neuman, J. L. Archambault, Curtis, Jenkins, Murray, Case,

Bailey, Mereness, Sr., Blair, Lipes, Lomax, Smelzer, Classen, A. J. Bedell, Corning, Conway, Papen, Jr., Rooney, J. N. Vander Veer, O'Leary, Jr., Hacker, J. L. Bedell, Winne, Archibold, Mitchell.

Minutes of the last meeting were read and adopted.

The Board of Censors reported favorably on the application of Dr. E. G. Bensen. Motion made that the Secretary be directed to cast a ballot for Dr. Bensen. Motion was carried, the Secretary cast the ballot and Dr. Bensen was declared elected to membership. The Board of Censors reported that all the applications received had been acted upon, the list of registered physicians had been examined, and the following had registered since the semi-annual meeting:

Name.	Address.	Born.	Graduated.	Licensed.	Registered.
Paul T. Harper, Albany...		11-21-81	P. & S. N. Y. '07	6-25-07	10-28-09
Frank A. Augar, S. Beth..		7-19-64	P & S. Balt. '86	9-14-96	11-13-09
John E. Metcalf, Wa'v't..		3- 6 33	A. M. C. '74		3 -1-10
Samuel O. Kemp, Jr., Alby		1-10-83	A. M. C. '06	5-25-06	5- 5-10
Louis B. Mount, Albany...		9-28-80	Cornell '05	6-25-05	5- 9-10

Report of the Board of Censors was received and approved.

SECRETARY'S REPORT

The Secretary presented the following report:

Twelve meetings have been held during the year, two memorial meetings.

Members on roll, 1909, 164.

Members died during year, 2.

Members suspended, 7.

Decrease, 9.

Members elected, 30.

Net increase, 21.

Members on roll, 1910, 185.

Four physicians died during the year:

Dr. Charles E. Witbeck, a member of the Society, May 13, 1909;
Dr. John L. Cooper, a member of the Society, December 12, 1909;
Dr. O. E. Alexander, a former member, February, 1910; Dr. W. G. Healey, December, 1909.

Five physicians have registered in the county since the semi-annual meeting.

There are now in the county 272 physicians.

Not practising, not registered, 16.

Not members of the Society, 81.

Ten members of the Society reside in other counties, and four physicians are members of Societies in other counties. The Secretary has on file a complete list of the physicians in the County.

JOSEPH A. LANAHAN,

Secretary

The report of the Secretary was received and on motion of Dr. Neuman adopted.

TREASURER'S REPORT

The Treasurer presented the following report:

Assets

On hand May 11, 1909.....	\$158 02
Total collections since May 11, 1909.....	754 00
Total	\$912 02

Expenditures

Printing	\$140 64
Entertainment and refreshments.....	71 00
Albany Annals	57 50
Postage	9 00
Arthur Morrill	7 00
Dr. Holding	18 20
Jacobi Fund	45 00
Treasurer of State Society.....	525 00
Refund, Dr. Page	1 00
Total	\$874 34

Recapitulation

Total assets	\$912 02
Total expenditures	874 34
On hand May 11, 1910.....	\$37 68

DANIEL V. O'LEARY, JR.,

Treasurer.

The report of the Treasurer was received, and on motion of Dr. J. N. Vander Veer a committee was appointed to audit the Treasurer's books. The Chairman appointed Drs. J. N. Vander Veer and Hacker as the committee.

Dr. CURTIS, in the absence of Dr. Craig, presented the report of the Committee on Public Health.

ALBANY, N. Y., MAY 11, 1910.

To the Medical Society of the County of Albany:

The Committee on Public Health of the Medical Society of the County of Albany at its annual meeting, Wednesday evening, May 11, 1910, presents the following report:

It is a matter of satisfaction to note the activities everywhere displayed in the interest of health. The probabilities of the institution of a National Department of Health with a seat in the cabinet of the President for its chief officer is noted with great gratification. The activities of the State Department of Health carried forward with judgment and discretion seem certain to produce a large return to the people of this State in the immediate future.

Among matters of interest in the protection of the health of our people, the following have been selected for special comment as of particular importance at this time.

It seems incredible, considering the abundant proof of the efficacy of vaccination in stamping out and preventing smallpox, that any group of men should endeavor to repeal the salutary provisions of the act which requires all children attending the public schools of the State to be vaccinated and which provides for compulsory distribution of vaccine by local health authorities. However, two bills are before the Legislature asking for the repeal of these salutary measures. The Committee on Public Health of this Society calls the attention of this Society to the necessity of representing to the Legislature of this State the incalculable harm which would result from the repeal of the present vaccination laws. The Committee recommends to the Society the passage of a resolution re-affirming its belief in the efficacy of vaccination in controlling smallpox and urging the members of the Legislature to leave the present vaccination laws as they are without amendment or repeal.

The committee on public health also desires to call the attention of the Society to the efforts which are being made to impair the usefulness of institution of medical research and to prevent experimentation on living animals for the benefit of scientific progress. So tremendous have been the discoveries of scientists in their benefits to humanity and so great an impediment would be placed in the way of future discovery by the limitation of reasonable animal experimentation, that every effort should be put forth to prevent any impairment of the work of experimental scientists. The Society is urged to publicly express its confidence in the integrity, humanity and public spirit of those who are devoting their lives to this branch of science and to uphold the present law which gives them needed opportunity.

The tuberculosis law is proving itself a great aid to the limitation of tuberculosis. Constant progress is noted in the means of combating the disease and the control of active cases which are a menace to the health of the public. The members of the medical profession are particularly urged at this time to report all cases of tuberculosis in their practice in the form provided by law, as well as all removals of cases from one habitation to another, together with the recovery of those previously afflicted with this disease.

The State Department of Health, among its other activities, has issued convenient packages for the distribution of a solution of nitrate of silver for the purpose of preventing ophthalmia neonatorum in the new born. While cases of this disease are not very common in this section of the State but are occasionally the cause of blindness, this committee urges the members of this Society to consider the advantages of carrying with them to their cases of obstetrics the convenient and sterile packages of a solution of nitrate of silver which have been distributed throughout the State for their benefit.

The Committee on Public Health in conclusion desires to call the attention of the profession to the benefits to be derived from reasonable

medical inspection of public and private schools. The committee desires to make the distinction between medical inspectors under the direction of local departments of health having for their object the discovery of contagious disease and the immediate exclusion and isolation of all children whose presence in school would be a menace to the health of others and medical inspection from the standpoint of public charity and the school authorities which would have to do with the providing of glasses, surgical operations and supplies for those in need of them. The committee desires to recommend, through the Society, to the authorities the advantages of the appointment of medical inspectors of the first class. While the committee sees many advantages of medical inspection of the second class, it recognizes the fact that the question as to how far the public should go in providing medical attendance and surgical procedure for children is still a matter of discussion. The committee, therefore, is not willing to recommend at this time to the Society for action the appointment of the second class of inspectors.

JOSEPH D. CRAIG,
F. C. CURTIS.

Dr. ROONEY moved that the report be accepted and the recommendations be adopted. Motion carried.

Dr. CURTIS said the recommendation might have more point if the Society's action in regard to the retaining of the vaccination law without amendment be sent to the Chairmen of the Committees on Public Health of the Assembly and Senate, Drs. Wood and Witter. Earnest and consistent efforts are being made on the part of misguided people to cause the enactment of one of two laws. One relieves from the obligation those who have a certificate, the other excuses children who are not fit to be vaccinated, and those who have conscientious objections to vaccination. I do not think they will be reported from the committee, but it seems to me many people will speak with great earnestness and the committee needs all the backing from the Society they can get.

Committee on Legislation and Committee on Milk Inspection presented no reports.

Dr. J. N. VANDER VEER reported that the Committee had examined the books and vouchers of the Treasurer and found them correct.

ELECTION OF OFFICERS

Nominations for President called. Dr. Bedell nominated Dr. John H. Gutmann, Dr. Rooney seconded the nomination. The Chairman appointed as tellers Drs. Bedell and Corning. Dr. Lomax moved that the nominations be closed, and that the Secretary be directed to cast a ballot for Dr. Gutmann for President. Motion carried, the Secretary cast the ballot and Dr. Gutmann was declared elected President.

For Vice-President, Dr. Rooney nominated Dr. Mitchell of Cohoes; Dr. Mitchell declined, stating that he had already held the office. Dr. Neuman nominated Dr. Hacker. Dr. Jenkins moved the nominations be closed. Motion carried. Dr. Conway moved that the Secretary cast

a ballot for Dr. Hacker for Vice-President. Motion carried, the Secretary cast the ballot and Dr. Hacker was declared elected Vice-President.

For Secretary, Dr. Jenkins nominated Dr. J. L. Bendell. Dr. Lomax nominated Dr. Corning. Dr. Hacker nominated Dr. Lanahan. Dr. Lanahan declined, as he had held the office for two terms. Dr. Bendell declined. Dr. Lanahan moved that the nominations be closed. Motion carried. Dr. O'Leary moved the Secretary cast a ballot for Dr. Corning for Secretary. Secretary cast the ballot and Dr. Corning was declared elected Secretary.

For Treasurer, Dr. Rooney nominated Dr. Conway. Dr. Conway declined. Dr. O'Leary nominated Dr. Papen, Jr. Dr. Bendell nominated Dr. Archibold. Dr. Archibold declined. Dr. Conway moved the Secretary cast a ballot for Dr. Papen for Treasurer. The Secretary cast the ballot and Dr. Papen was declared elected Treasurer.

For members of the Board of Censors, Dr. Hacker nominated Dr. MacFarlane; Dr. O'Leary nominated Dr. Jenkins; Dr. Conway nominated Dr. Mitchell; Dr. Curtis nominated Dr. Archibold; Dr. Lanahan nominated Dr. Bedell; Dr. Classen nominated Dr. Bailey; Dr. Bailey declined and nominated Dr. Classen. Dr. Bedell declined. Dr. Papen nominated Dr. Cook. Dr. Cook declined. Dr. Neuman moved the nominations be closed, and the Secretary cast one ballot for each candidate named. Motion carried. Secretary cast a ballot for Drs. MacFarlane, Jenkins, Mitchell, Archibold, and Classen, and they were declared elected.

Dr. J. N. VANDER VEER moved the adoption, subject to the approval of the State Society, of the amendment to the by-laws, notice of which had been given at a previous annual meeting, changing Chapter VII, Section 1 to read: "Each member shall pay annually the sum of two dollars," instead of "Each member shall pay annually the sum of one dollar." Dr. Case asked by what right the members should impose the added dues on those who were not present.

Chairman answered that a two-thirds vote was necessary.

Dr. CASE asked whether there was any other reason for the increase besides the expense of lunches, as had been spoken of when the question was first brought up. Many members cannot attend the meetings and so are not able to enjoy the social benefits. Dr. MacFarlane said the Medical Society has another function besides the reading of papers; it has a social side which should be developed. The lectures by men like Prof. Cohnheim and Dr. Seaman, the electricity meeting and such meetings cost money to hold and the Society should be willing to stand the expense. If it is found that \$2.00 is too much Dr. Papen can render an account of the remainder. The Society should not allow a half dozen members to assume these expenses.

Motion of Dr. Vander Veer was carried.

Dr. LANAHAN said he believed instead of adding another dollar to the County dues that the State assessment should be decreased. The State Society publishes a directory which is of little benefit to most of the members of the County Society, which is not wanted by them and would never be purchased by them, and yet which must be paid for by all. This

directory is sold at the rate of \$2.50, and if not imposed upon members ought to decrease their dues at least one dollar.

Dr. NEUMAN said he did not think the members appreciated the benefits furnished by the State Society, the protection and benefit given for a small charge. The Physicians' Defense feature, that some of our members had had occasion to take advantage of. The expense would have been very much greater if this protection had not been given. The State Society publishes a journal, which has been getting better right along. This journal is becoming a force for all that the State Society stands for. Every district now has its meetings, and their expenses are borne by the State Society. The Directory is of personal character. Some time ago he made a canvass among the State Members and found that the New York men were enthusiastically in favor of it. It is a most accurate directory of the State; a complete register of physicians. It is the list of legally registered practitioners of the State, and while it may be of more benefit to some than to others, it is of value to all. The State Society in its publications has contracted expenses by throwing out advertisements and raising the money by other means. He hoped the Society would not put itself on record as lowering the standard.

Dr. MACFARLANE said he did not think the changing of the directory would lower the standard. There was no question of the other features of the State Society, but people who receive benefits should pay for them. If the New York members find the directory of such advantage they should be willing to pay for it. There are few of us who have use for an annual directory. He believed for many, especially the younger men, that every dollar counts, and that this society should later take action on this question.

Dr. CURTIS moved that the Secretary be directed to communicate to the Chairman of the Committees on Public Health of the Senate and Assembly the action of this Society in opposing any amendment to the vaccination law. Motion carried. The Secretary gave notice that at the next annual meeting he would move the adoption of the following resolution:

WHEREAS, Chapter 2, Section 1, of the General By-Laws makes ineligible for membership physicians whose affiliation is desirable by the Society,

Resolved, That Section 2 be amended to read:

"Directors and Assistant Directors of regularly instituted Laboratories, Medical Superintendents of Hospitals, Medical Officers of State Institutions, and Medical Officers of the United States Army, Navy and Public Health Service are eligible to membership."

Dr. WINNE spoke in regard to the bill before Congress in reference to the establishment of the Department of Public Health. The following letter was read and referred to the Committee on Legislation:

MARCH 30, 1910.

Dr. Jos. A. Lanahan, Albany, N. Y.:

My Dear DOCTOR.—I am enclosing herewith a copy of a bill introduced in the United States Senate recently by Senator Cullom of Illinois and proofs of an article discussing this bill, which will appear in the next number of *The American Journal of Clinical Medicine*.

I trust that you will read this matter carefully. While the purpose of the bill, "To Regulate the Traffic in Habit Forming Drugs," is excellent it has been framed in such a way to work hardship and in many cases disaster to physicians who dispense their own remedies, thus playing directly into the hands of those who are trying to legislate the dispensing doctor out of business.

To prevent legislative discrimination of this kind against our profession it is necessary that we should be alive and awake. The bill can be readily modified so that the interests of the whole profession will be protected.

Physicians individually, and our medical societies collectively should demand such modification and make their influence felt—and at once.

Let me suggest that your Society give this subject immediate consideration, and that any resolution it may pass as well as the opinions of its individual members, be placed at once in the hands of your Senators and Congressmen. This is an exceedingly important matter.

I shall appreciate it if you will advise me of any action on the part of your Society.

Thanking you in advance for your courtesy and co-operation, I remain

Sincerely yours,

W. C. ABBOTT.

The President, Dr. ANDREW MACFARLANE, then delivered the annual address: The Functions of a Medical Society.

Dr. ROONEY moved the Society give a vote of thanks to Dr. MacFarlane for his excellent address and that a copy of it be requested for the records of the Society.

Dr. CURTIS, in seconding the motion, said:

The Society feels it owes a debt to the retiring President who, with his associates, has given a year unparalleled in the history of the Albany Society. It marks a new era in the work the Society is doing. The President in his address has outlined the work of a Medical Society and has translated into action his conception of what this might be. It should prove a stimulus to those who succeed him in office, so that the meetings may draw to it the many who have filled them of late years, but others not accustomed to come, from all parts of the County, and that we may place them in positions of honor. Next year Cohoes, for instance, might hold the helm for the Society.

Dr. A. VANDER VEER suggested to the Society the consideration of the introduction of public lectures on medical subjects under the direction of the Society. The plan had been carried out in larger cities with success, for instance, in Boston and Chicago. He had been absent much

of the winter, but he assured the Society that as programs reached him at various times, it was pleasant to know such good work was being done, and he took much pride in what had been accomplished by the County Society.

On motion of Dr. JENKINS the Society adjourned.

ANDREW MACFARLANE,

President.

JOSEPH A. LANAHAH,

Secretary.

Medical News

Edited by Arthur J. Bedell, M. D.

ALBANY GUILD FOR THE CARE OF THE SICK—DEPARTMENT OF VISITING NURSING—STATISTICS FOR MAY, 1910. Number of new cases, 123; *classified as follows*: Dispensary patients receiving home care, 21; district cases reported by health physicians, 8; charity cases reported by other physicians, 41; moderate income patients, 53; old cases still under treatment, 199; total number of cases under nursing care during month, 322. *Classification of diseases for the new cases*: Medical, 40; surgical, 7; gynecological, 0; obstetrical under professional care, mothers, 38; infants, 33; eye and ear, 1; skin, 0; throat and nose, 0; dental, 0; contagious diseases in the medical list, 9; removed to hospital, 12; deaths, 5.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 2; medical students in attendance, 2; Guild nurses in attendance, 2; patients, 2; visits by attending obstetrician, 1; visits by students, 14; visits by nurses, 24; total number of visits for this department, 39.

Visits of Guild Nurses (all departments): Number of visits with nursing treatment, 1,120; for professional supervisions of convalescents, 290; total number of visits, 1,410. Cases reported to the Guild by five health physicians and thirty-eight other physicians. Graduate nurses seven, and pupil nurses ten on duty.

Dispensary Report.—Number of clinics held, 98; number of new patients, 148; number of old patients, 455; total number of patients, 603. *Classification of clinics held*: Surgical, 12; nose and throat, 8; eye and ear, 15; lung, 16; nervous, 3; skin and genito-urinary, 6; stomach, 2; medical, 11; children, 11; gynecological, 8.

ALBANY GUILD FOR THE CARE OF THE SICK—DEPARTMENT OF VISITING NURSING—STATISTICS FOR JUNE, 1910. Number of new cases, 141; *classified as follows*: Dispensary patients receiving home care, 18; district cases reported by health physicians, 3; charity cases reported by other physicians, 44; moderate income patients, 76; old cases still under treatment, 205; total number of cases under nursing care during month, 346. *Classification of diseases for the new cases*: Medical, 41; surgical, 6; gynecological, 1; obstetrical under professional care, mothers, 42; infants, 39;

eye and ear, 0; skin, 6; throat and nose, 0; dental, 0; contagious diseases in the medical list, 8; removed to hospital, 13; deaths, 6.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 3; medical students in attendance, 3; Guild nurses in attendance, 6; patients, 3; visits by attending obstetrician, 5; visits by students 38; visits by nurses, 37; total number of visits for this department, 80.

Visits of Guild Nurses (all departments): Number of visits with nursing treatment, 1,321; for professional supervisions of convalescents, 311; total number of visits, 1,632. Cases reported to the Guild by one health physician and forty-one other physicians. Graduate nurses eight, and pupil nurses ten on duty.

Dispensary Report.—Number of clinics held, 91; number new patients, 128; number old patients, 437. *Classification of clinics held:* Surgical, 13; nose and throat, 5; eye and ear, 9; dental, 1; lung, 16; nervous, 2; skin and genito-urinary, 8; stomach, 3; medical, 13; children, 12; gynecological, 9.

ALBANY GUILD FOR THE CARE OF THE SICK—DEPARTMENT OF VISITING NURSING—STATISTICS FOR JULY, 1910. Number of new cases, 165; *classified as follows:* Dispensary patients receiving home care, 26; district cases reported by health physicians, 6; charity cases reported by other physicians, 66; moderate income patients, 67; old cases still under treatment, 203; total number of cases under nursing care during the month, 368. *Classification of diseases for the new cases:* Medical, 44; surgical, 13; gynecological, 0; obstetrical under professional care, mothers, 52; infants, 46; eye and ear, 0; skin, 1; throat and nose, 1; infectious diseases in the medical list, 3; removed to hospitals, 6; deaths, 7.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 1; medical students in attendance, 2; Guild nurses in attendance, 3; patients, 4; visits by head obstetrician, 0; visits by attending obstetricians, 2; visits by students, 19; visits by nurses, 29; total number of visits for this department, 48.

Visits of Guild Nurses (all departments): Number of visits with nursing treatment, 1,595; for professional supervisions of convalescents, 299; total number of visits, 1,894. Cases reported to the Guild by four health physicians, and forty-one other physicians. Graduate nurses seven, and pupil nurses eleven on duty.

Dispensary Report.—Number of clinics held, 81; number of new patients, 121; number of old patients, 427; total number of patients, 548. *Classification of clinics:* Surgical, 11; eye and ear, 9; nervous, 0; stomach, 1; children, 13; nose and throat, 8; lung, 14; skin and genito-urinary, 8; medical, 13; gynecological, 6.

ALUMNI MEETING OF THE ALBANY MEDICAL COLLEGE AT ST. LOUIS.—The annual meetings of the American Medical Association have become the occasion for the reunion of the graduates of many of the colleges of the country. The meetings of this association bring together so many physicians, that it is found very pleasant and convenient for the alumni of different colleges to have dinners and reunions.

Two years ago at Chicago a number of the alumni of the Albany Medical College dined together, and the occasion was one of many pleasant reminiscences.

An announcement made at the meeting at St. Louis inviting all the graduates of the college to meet at the Planter's Hotel, brought together a very interesting little company of physicians, many of whom had not been back to the college since their graduation.

An informal meeting was held, in which Dr. Edgar A. Vander Veer, of Albany, gave a very interesting account of the college and its teachers and the prospects for the future.

Dr. D. T. Fairchild, of Clinton, Iowa, described at some length his studies at Albany, and his experience in the early part of his career.

Dr. A. B. Bowen, of Maquoketa, Iowa, spoke of the early teachers and professors, and their personal influence, and of students and fellow graduates and their successes.

Dr. T. D. Crothers, of Hartford, Conn., pointed out some peculiar features of the college and its graduates, which have come down through all the years as a distinct personality.

Dr. G. E. Lyon, of St. Louis, spoke of the frequent meetings of the graduates, and the very pleasant memories they have of their college life. He mentioned how much the students felt indebted to their teachers, and the recognition of this indebtedness increased with the years.

A very general exchange of experiences in the early days of practice, and the impressions of the teachers of the college, and incidents at the graduation exercises were given by others in a frank informal way.

Finally Dr. Crothers offered the following resolution, which was heartily endorsed and sent as an expression of the warmest sympathy and interest to the faculty and teachers of the college.

Resolved, That we, the graduates of the Albany Medical College, representing nearly all the decades from 1865 down to 1906, send our hearty greetings to the faculty and teachers of this college, and assure them that we appreciate and recognize their untiring efforts to keep up the good name of the college and sustain it by an increasing number of highly trained graduates, whose acquaintance we are proud to make.

Although far removed, we are still students and most earnestly join in every effort made to raise the standard of medical education and send out new graduates more thoroughly equipped than those of the past; also that we take great pleasure in sharing the honors that come to both the faculty and students, confidently believing that the reputation of the past will continually widen in the future, and also that it is a source of great satisfaction that we entered upon our medical career through the portals of this college.

Also that a copy of this resolution be sent for publication in the ALBANY MEDICAL ANNALS.

Those of the alumni of the Albany Medical College attending the A. M. A. meeting were as follows: T. D. Crothers, '65, D. F. Fairchild, '69, A. B. Bowen, '84, G. E. Lyon, '84, E. A. Palmer, '96, G. G. McMullen, '98, E. A. Vander Veer, '98, Christian G. Hacker, '99, Arthur Will, '00, Arthur J. Bedell, '01.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.—The following circular letter has been sent to the physicians of the State:

Usually we feel that with the legislative adjournment our work in respect to medical law making is finished for the year. This year, however, we find that such is not the case, and we desire to enlist your support and that of your organization in actively combatting the determined efforts which are being made to influence public opinion in opposition to the attainment of the scientific knowledge necessary to advancement in the prevention and cure of disease.

As you know, for several years, anti-vivisection societies have had introduced into our State Legislature bills which, if enacted into laws, would seriously interfere with scientific teaching in our medical colleges and with valuable work now being done in our laboratories of scientific animal research. These efforts have thus far signally failed, and, we believe, will continue to fail, provided that the members of our profession oppose them with fitting foresight and vigor. Thus far ample opportunity has been given us by the Legislature, and it has seemed not difficult to convince those of unprejudiced minds of the unwisdom of enacting laws which will in any way interfere with the continued advance of medical science.

Anti-vivisectionists apparently realize the justice of our position, but with a persistency born of a prejudice which will not acknowledge the right, have misrepresented the facts in such a way as to cause certain otherwise fair-minded men and women to join with them in efforts to secure legal enactments which well might lead to private and public disaster.

In New York and other large cities anti-vivisection exhibitions have been given. These, by their gross misrepresentations, in many instances amounting to falsification, which cannot be regarded as entirely unintentional, have so presented animal experimentation to the onlookers as to cause the impression in their minds that scientific experimental laboratories are dens of exquisite torture and that qualified experimenters are conscienceless fiends. How many converts are thus gained to the cause of anti-vivisection we have no means of knowing, but as the leaders seem to have abundant funds for their purpose, their supporters are possibly both numerous and generously disposed.

We are credibly informed that the New York Anti-vivisection Society proposes to take its exhibit to certain of the county and other agricultural fairs to be held in this State during the coming autumn, thus to increase its strength and correspondingly gain support for its purpose at the next Legislature. We believe that such an act as this should be vigorously opposed. And we feel that if men of personal and professional influence like yourself and your colleagues of the County Medical Societies, of Academies of Medicine and of similar bodies would exercise the influence at command, the officers of the agricultural fairs would refuse to allow this unsightly, demoralizing and misleading exhibition to be held in connection with their displays.

Since this matter is equally important to all of us, we urge you to

give to it your earnest thought and active opposition. We enclose a significant letter relating to the exhibit in question. We can also place at your disposal other literature bearing on animal experimentation if you will write to this office for it.

We would gladly hear from you regarding this matter at your earliest convenience, and be pleased to learn that we can count on your co-operation in the contest in behalf of medical achievements.

Very truly yours,

CHARLES JEWETT,

President, Medical Society of the State of New York.

WISNER R. TOWNSEND,

Secretary, Medical Society of the State of New York.

FRANK VAN FLEET,

Chairman, Committee on Legislation.

JOSEPH D. BRYANT,

Chairman, Committee on Experimental Medicine.

JOHN S. THACHER,

Secretary, Committee on Experimental Medicine.

PROGRAM OF THIRD DISTRICT BRANCH MEDICAL SOCIETY OF THE STATE OF NEW YORK.—October 4, 1910, Albany, N. Y. Morning session at the Albany Hospital. 10-12, Demonstration of medical and surgical cases illustrating the modern methods of clinical diagnosis. 12, Visit by automobiles to the Albany Hospital Sanatorium for Tuberculosis. 1.30 P. M., Luncheon at the Albany Hospital; afternoon session at the rooms of the Historical and Art Society. 3 P. M., (1) Limitations of Laboratory Diagnosis. Dr. Thomas Ordway, Albany, N. Y.; (2) Address, Dr. Simon Flexner, New York City; (3) Symposium on Modern Therapeutics; (4) Subject to be announced, Dr. Mary Gage-Day, Kingston, N. Y.; (5) President's address—The Diagnostic House, Dr. Andrew MacFarlane. 6.30 P. M., Dinner at the Albany Club. 8 P. M., Evening session at the Historical and Art Society rooms; travel-talks illustrated with lantern slides by members of the society. 10 P. M., Smoker at the University Club; reception to the president-elect.

PERSONALS.—Dr. LUCIEN E. WELLS (A. M. C. '70), is now at 44 Myrtle street, Boston, Mass.

—Dr. THOMAS RYAN (A. M. C. '93), has moved from 47 Eagle street to 74 South Swan street.

—Dr. HAROLD D. COCHRANE (A. M. C. '01), has moved from 59 Eagle street to 4 South Hawk street.

—Dr. MICHAEL J. THORNTON (A. M. C. '01), has been appointed assistant alienist at Bellevue Hospital, New York City. He has been medical examiner at Ellis Island for the past four years.

—Dr. EDWARD D. WHIPPLE (A. M. C. '06), has given up private practice and is now superintendent of the Forester's Sanitarium for Tuberculosis at Rainbow Lake.

—Dr. MARCUS D. CRONIN (A. M. C. '07), has moved from Eagle street to 74 South Swan street.

—Dr. CHARLES E. SLATER (A. M. C. '09), is practicing at Valatie, N. Y.
—Dr. ELLIS KELLERT (A. M. C. '09), is at the Bender Laboratory for the next year.

—Dr. HARLEY HEATH (A. M. C. '09), is practicing at Sandy Hill, N. Y.
—Dr. ARTHUR E. PITTS (A. M. C. '09), has opened an office at 255 Quail street, Albany.

MARRIED.—Dr. ORLA A. DRUCE (A. M. C. '09), and Miss Wilda MacDougall of Albany, N. Y., were married May 5. Dr. and Mrs. Druce will reside in New Paltz, N. Y.

DEATHS.—Dr. ROBERT S. MCMURDY (A. M. C. '46), a member of the Minnesota State Medical Association, for thirty-seven years a practitioner of Minneapolis, died at the home of his son in that city, April 29, from senile debility, aged 85. Dr. McMurdy was well known in Albany. For years he conducted a drug store at the corner of Broadway and Maiden Lane subsequently removing to Minneapolis where it would appear that he engaged in practice. He was probably one of the oldest graduates of the college.

—Dr. RANDALL WILLIAMS (A. M. C. '48), a practitioner of LeRoy, N. Y., for half a century, and said to have been the oldest physician in Genesee county, died at his home June 10, 1910, aged 85.

—Dr. CARHART LYON GARRESTON (A. M. C. '48), formerly a member of the Iowa State Medical Society, surgeon of the Thirty-first Iowa Volunteer Infantry, and later division surgeon during the Civil War, a pioneer practitioner of Linn county, died at his home in Marion, April 20, aged 86.

—Dr. CHARLES NATHANIEL HEWITT (A. M. C. '57), of Red Wing, Minn., a veteran of the Civil War, executive secretary of the Minnesota State Board of Health for twenty-five years from the time of its organization in 1872, for some years professor of public health in the State University, died at the home of his daughter in Summit, N. J., July 7, aged 74.

—Dr. WILLIAM M. HENDRICHSON (A. M. C. '63), a prominent physician of Coupeville, Washington, died at that place May 30, from nephritis, aged 68.

—Dr. DAISON D. DRAKE (A. M. C. '64), for a number of years a member of the Board of Pension Examining Surgeons, for several years a member of the Johnstown, N. Y., Board of Education, died at his home in that city July 20, from paralysis, aged 72.

—Dr. WILLIAM LOBDELL JOHNSON (A. M. C. '65), a member of the Medical Society of the State of New York, died at his home in Johnstown June 26, from chronic gastritis, aged 66.

—Dr. EDMUND STEVENS (A. M. C. '98), deputy coroner of Ramsey county, Minn., of St. Paul, died at the City Hospital in that place June 11, from pleuropneumonia, aged 34.

ALBANY MEDICAL ANNALS

Original Communications

[THE EXPERIMENTAL PATHOLOGY OF THE STOMACH.]

*Read before the Medical Society of the County of Albany,
December 2, 1909.*

[BY DR. OTTO COHNHEIM,]

Professor of Physiology, University of Heidelberg, Germany. (Harvey Lecturer.)

The pathology of the stomach and of the whole alimentary canal is studied almost exclusively in the sick. This is a remarkable fact, which strikes us from three points of view. First, we all know that the pathology of the heart and the circulatory organs never could have been cleared up without the investigation of Ludwig, of Krehl, of Romberg and others, on animals. The pathology of infectious diseases has made advance steps by the experiments on animals, which cannot be replaced by observation on sick men. Second, we know, that in gastric and intestinal diseases we cannot see directly the affected organs, and that patients give us very unsatisfactory descriptions; they cannot tell exactly the location of painful feelings or distress, and they cannot describe to us exactly the character of the trouble. Especially the small intestine, the real center of digestion, which governs all other digestive organs, cannot be experienced by patients, and cannot be studied like the contents of the stomach or fever by physicians. Third, we know that our knowledge of the physiology of digestion, in normal digestion, is based practically on experiments upon animals. The secretions are studied and explained by Pawlow, and the movements of the digestive organs are absolutely determined by Cannon with X-rays.

This discrepancy between the normal physiology of digestion based on experiments with animals, and the knowledge of gastric and intestinal diseases based on incomplete observation in the

sick, is, I think, the reason that in gastric diseases we know only symptoms, not real diseases like infectious diseases. We know certain types of disorders, but only in special cases can we tell whether we deal with difficulty in motility, disorder of secretion, or changes in absorption, whether we deal with disorder in stomach or disease in small or large intestine. We know many cases of constipation, but that symptom can be produced by a lack of activity of muscles, or by an increased absorption. We know that the gastric ulcer is connected as a rule with hyperacidity, and that hyperacidity is associated sometimes with diarrhoea, sometimes with constipation. We know that food lies in the stomach for a longer or shorter time than under normal conditions, and that the concentration of the hydrochloric acid in the stomach can rise or fall from the normal, but we cannot understand what processes influence it.

I have tried in the last year to study the pathology of the stomach in the same way in which former investigators have studied the pathology of infectious diseases or heart diseases, namely to provoke diseases in animals and to compare symptoms of these artificial diseases with the symptoms naturally occurring in man. I had the advantage of the collaboration of Professor Krehl in Heidelberg, who demonstrated to me symptoms in the sick, and furnished to me some of his assistants for common experimental work.

My experiments were made exclusively on dogs, and I have heard sometimes the objection that it is not logical to draw conclusions from the carnivorous dog to the omnivorous man. Domestic dogs however are not real carnivorous animals; meat is too expensive, at least in Europe, for feeding dogs exclusively with it; most dogs eat the common mixed food of men, or the so-called dog biscuit, resembling bread. The anatomy and histology of human and canine stomachs show no difference, and we have observed that the time of digestion in the stomach, and the concentration of hydrochloric acid in the contents, the ratio between the gastric juice and the food is the same in dogs and in men.

Before we provoked diseases in dogs, it was necessary to study normal digestion. [We used dogs with fistula, a canula fixed in the upper duodenum after Pawlow's method,] but with some modifications. A canula of brass is placed in the intestine in the wall of the peritoneal cavity so that if the canula is closed

food passes through the pylorus and the duodenum in normal manner. But if we open the canula, all food coming from the stomach must pass through the canula and drops out, where it can be caught, measured and studied. The operation is made according to the rules of surgery; at the location of the canula the duodenum is fixed, but no other pathological changes occur. A week after the operation one can begin with the experiments, and dogs live with a canula in the duodenum months and years in perfect health. The canula has a small tube running along its wall, and in the free end of the tube we have connected before the operation a smaller tube, which lies in the intestine below the position of the canula. We are enabled therefore to inject solutions, for example, the fluids running out of the canula coming from the stomach, into the duodenum and the intestine, and we have seen that it is absolutely necessary to do so, when one wishes to work under natural conditions. The movements of the stomach, the opening and the closure of the pylorus are governed by reflexes from the wall of the upper intestine; the secretions of the stomach can be stimulated or checked by stimuli, which affect the inner surface of the duodenum. When we inject the natural contents of the duodenum we obtain the same results on the gastric contents as we observed at the time in dogs with a gastric fistula, that means, that the gastric digestion in dogs with a duodenal canula and with injections proceeds under normal conditions. We could see the time and the relations of the emptying food through the pylorus, and we could determine the quantity of gastric juice needed for individual foods. In some dogs we placed the canula at the point where the pancreatic duct and the bile duct flow into the intestine, and we could determine the quantities and the concentration of the pancreatic juice and bile. With a gastric fistula either the reflexes from the intestine upon the stomach do not act, or one obtained the contents of the stomach only at a given time, but not through the whole digestion. With Pawlow's little stomach one can get the right concentration at the right time, and one allows all stimuli to act, but one does not get absolute values for the quantities of gastric juice.

We gave to our dogs the test breakfast and the test dinner usual in hospitals; in German hospitals one gives as test breakfast 400 g. of tea without milk and sugar, and 50 g. of white bread. Two or three minutes after feeding bile and pancreatic

juices are recorded, that means before gastric contents can leave the stomach. We do not deal therefore with a secretion by stimulus direct, but with a psychical secretion. Some minutes afterward the pylorus is first opened and soon the tea flows out of the canula mixed with a very small quantity of gastric juice; a weak, almost perceptible acid reaction occurs. As it was pointed out first by Hering, later by Mintz and Martins, and last, not least, by Cannon, fluids leave the stomach in many little gushes, following each other in ten to fifteen seconds. Three-quarters of the tea leave the stomach thus in twenty-five to thirty minutes. Thirty-five to forty minutes after feeding bread is seen in the fistula, converted into a thin chyme strongly acid, and this bread-chyme flows out in regular intervals for forty minutes. After this time the outflow becomes more and more slow, and ceases gradually.

Forty-five or sixty minutes after feeding gastric contents yield fifty to seventy acid, twenty-two to thirty free hydrochloric acid. These figures approximate the well-known figures in healthy men. The stomach secretes about one hundred and fifty centimeters of gastric juice; the amount of pancreatic juice and bile is much greater, not less than 250 grams in large dogs, so that the size of stomach resembles the human stomach.

The test dinner, which we have given to our dogs was

300-350 grams of soup

120-150 grams of meat

20 grams of bread

250-300 grams of mashed potatoes.

We mixed the whole mass into a finely divided pulp, and added thirty grams of human saliva, because dog's saliva yields no ptyalin, and we thought that this ferment and the digestion of starch in the stomach is perhaps important for the stomach.

Two or three minutes after feeding, bile and pancreatic juice began to flow, again a psychical secretion. Ten minutes later the pulp began to leave the stomach. The first portions were thinner than the later, but the difference was less marked than in the test-breakfast. For three hours at regular intervals a thin, almost homogeneous pulp, with some small pieces of meat was ejected through the canula. The contents of the stomach two and one-half or three hours after feeding were a pulp well digested, and yielded 58-78 total acidity.

No free acid could be detected, as a rule. The reason is, that

dog's gastric juice yields more pepsin than human gastric juice. Therefore more protein is digested and more hydrochloric acid is found in protein. No difference could be seen in the concentration of acid and the saliva between acid and food in chyme.

For a test breakfast 200 to 800 grams of gastric juice with four grams of acid, and not less than 500 grams of pancreatic juice and bile are secreted.

In special investigations we compared the behavior of the residuum left in stomachs at a given time and the mass passing through the pylorus at the same time, and we studied the composition of chyme in individual parts of the stomach, and we could see that the values found with the stomach tube after the test breakfast and the test dinner are reliable and enable us to draw conclusions upon the activity of the stomach.

We have tried now to provoke in our dogs gastric diseases in filling the stomachs through a tube or a fistula with ice-cold ammonia or with hot water of sixty degrees, that means 140 degrees Fahrenheit. We were surprised that we could not provoke gastric disease. Naturally the dogs were vomited and became very sick for some hours. But when the dogs had recovered the next day, they ate and relished food; the stomach was found always normal. We must try another way, and after some occasional observations we attacked the small intestine of our dogs with fistulas. We found it very easy to provoke gastric troubles by injecting harmful fluids directly into the intestine.

First we injected in the dogs through the open fistulas 500 to 700 centimeters of magnesium sulphate. Dogs got diarrhoea; we found in the intestine mucus and epithelial cells, thrown off from the muscular membrane. And we found also trouble in the stomach which had not been affected itself by the fluids. When the dogs recovered after the diarrhoea, we gave them the test breakfast or the test dinner, and we found that both the motility and the secretion of the stomach were abnormal.

The discharge of the bread began one hour after feeding in the case of the test breakfast; two hours after feeding, the first portions of the test dinner were ejected, and the whole digestion in the stomach took about six hours. The quantities of the gastric juice were much greater than under normal conditions. Instead of 150 grams we found 240 grams, instead of 700 grams we found 1100 grams. The concentration of bile in the secreted juice was increased, and by both the higher concentration and

the greater quantity of acid in the stomach's contents was much increased. We found for the test breakfast, acidity 89 to 91, free acid 51 to 58 in one series, and acidity 103 to 116, free acid 71 to 85 in a second series of experiments. In the test dinner we found 115 acidity.

The chyme found in the stomach was more liquefied than in normal conditions, that is to say, we had provoked by injections of magnesium sulphate in the intestine a disease in and a hyperacidity in the stomach.

We injected then into the fistula, a solution of four per cent sodium chloride. The atomic pressure of this solution is much higher than the pressure of the magnesium sulphate solution, but the sodium chloride can pass through the intestinal wall, and the injuries exerted by this salt are probably not so great as the injuries provoked by the magnesium sulphate which is not digested in the intestine. Dogs got diarrhoea by sodium chloride, and became sick as in the experiments with the other salt, and in the intestine mucous and epithelial cells could be seen microscopically. The movements of the stomach were disorganized in the same way as by the magnesium sulphate, a perceptible retardation of the outflow from the stomach could be observed. As we gave a test breakfast, the first positive flow came out from the fistula two hours after feeding, and the whole digestion took four hours and a half instead of one hour and a half. In the test dinner, in the first two and one-half hours no movement of the stomach, no opening of the pylorus could be seen, and the whole digestion took twice these two hours. For the movement both salts agree, but the influence of the sodium chloride upon the secretion was an opposite one. We did not observe an hyperacidity, but on the contrary a subacidity in the stomach.]

In the test breakfast sixty centimeters were reached instead of 150; in the test dinner 470 instead of 700.

The concentration of acid in the contents was decreased. Acidity, 14 to 40; free acid, 4 to 8. In some cases a total deficit of 2 to 18 could be observed. The contents were more dry than under normal conditions.

I give you here two tables. In the first you see the acidity, both combined and free hydrochloric acid at the test breakfast. The figures are averaged from each of the experiments.

Normal	Mg ₂ So ₄	Na Cl
64 26	85 51	35 8

In the second I give you the results of a continuous series of eight experiments with one dog. Here we determined the quantity, and the absolute value of the gastric juice for test breakfast and test dinner. We have given in this series only the half of the test dinner because experiments with the complete test dinner took too much time. It is impossible to continue experiments for more than five hours, because dogs cannot remain standing for a longer time. They become fatigued, and fatigue, like other painful feelings, influences gastric movements.

	Normal	Mg ₂ So ₄	Na Cl
Test breakfast	125	270	60
	146		
Test dinner (half)	354	560	236
	378		

These figures give evidence that first disorders in motility and second disorders in secretion both hyperacidity and subacidity, can be provoked by injuries, which are made to the intestine. It was impossible to provoke gastric diseases by injuries to the stomach itself, but it was easy to provoke them from the intestine.

This series of experiments I made in connection with Dr. Dreyfus, and in connection with Dr. Mueller, from St. Louis and Washington University. I have repeated experiments in connection with Dr. Morsband, and we have worked with dogs with two fistulas, one in the stomach, the other in the duodenum. We allowed the dogs to eat the test breakfast, permitted the tea to flow out, and injected more fluid in the duodenal fistula which could injure the intestine, opened the gastric fistula and studied the amount of acid and hydrochloric acid in the bread pulp or chyme moving out of the fistula. Under normal conditions we found the usual bread pulp, with an acidity of about 55 or 60, and about 22 or 25 free hydrochloric acid. In one series we injected hydrochloric acid in the duodenum. As you have heard, we inject in normal experiments gastric contents, which yield hydrochloric acid, but in this series we injected much more hydrochloric acid. We suggested that perhaps in pathological cases absorption is deranged in the small intestine, and that therefore hydrochloric acid arriving in the intestine from the stomach stays free for a longer time, and we wished to observe the influence of this acid upon the stomach. As we expected, by the injection the pylorus is closed, and chyme is retained in the

stomach for a longer time. But besides the amount of hydrochloric acid in the stomach is diminished. We found acidity 30-40 in free acid.]

The contents were unusually dry, in two cases it was impossible to get fluid for titration.

[We see therefore, that hydrochloric acid, affecting the inner surface of the intestine, not only checks the inflow from the stomach and closes the pylorus, but also checks or retards gastric secretion. Too much hydrochloric acid in the intestine makes subacidity in the stomach.

We took then another acid, the weak acetic acid, and injected it in the duodenal-fistula, all the other conditions being unchanged. We selected acetic acid because, according to Nencki bacteria form acetic acid in the intestine. It was possible that under pathological conditions bacteria growth increases and more acetic acid is formed. The acetic acid closes the pylorus like hydrochloric acid, but gastric residuum is not checked by acetic acids injected into the intestine. Secretion of gastric juice proceeds during the injection, and because the pylorus is closed and nothing can leave the stomach, gastric juice is accumulated in the stomach, and the acidity of the contents is increased. We found acidity 85-90; free acid 40-45. The contents are more liquefied than under normal conditions, and resemble the well-known human chyme in cases of hyperacidity.

The injections of the two acids give further evidence for the possibility that motor diseases are really intestinal diseases, or speaking consecutively, that disorders in the small intestine lie at the bottom of the well-known symptoms subacidity and hyperacidity in the stomach, which we observe in the sick. The injections of the acids provoke no perceptible symptoms in the intestine, neither diarrhoea could be observed, nor any pain is shown by the dogs. We can draw mere conclusions from our experiments.

It is possible that we provoke hyperacidity and subacidity in our experiments from the intestine, but the stomach itself may secrete too much gastric juice and produce this hyperacidity. I think we can exclude this possibility by our experiments with injections of hydrochloric acid in the intestine. If the stomach secretes too much gastric juice, that is to say, too much hydrochloric acid comes into the intestine. In this case the excessive hydrochloric acid must prevent the further secre-

tion in the stomach, and the hyperacidity will be prevented by the excessive amount itself. We have given to a dog with gastric fistula a test breakfast and immediately after it we have put in the stomach 150 g of hydrochloric acid of the concentration of the normal gastric juice. As I have told you, the dog secretes 150 centimeters for a test breakfast, and the stomach yielded in this experiment from the beginning of digestion the whole amount secreted normally during digestion. We opened the gastric fistula one-half hour after feeding, and we found the normal quantities which we found fifteen minutes after feeding and normal values. The excessive amount of hydrochloric acid was a stimulus for the duodenum to prevent further secretion in the stomach. I think we must draw the conclusion from this experiment that superacidity cannot be a primary disorder of the stomach, because hyperacidity itself must prevent hyperacidity.

Thus our experiments have enabled us to demonstrate that many symptoms which we described and which suggested danger or evidence of disease of the stomach, are probably symptoms of disease in the small intestine.

We have changed our opinion about the location of a disease, and it was possible in another case to change the general opinion about the location of the action of a generally used drug. You know that morphine and opium are good remedies for diarrhoea, and I think it was the general opinion that morphine and opium act upon the large intestine. Meltzer has investigated recently the action of morphine both on dogs with a canula in the duodenum and on dogs and cats fed with bismuth and observed with Roentgen rays and Cannon's method. He was surprised that the muscles of the intestine are not at all acted upon by morphine. The action of morphine is, however, an action upon the stomach. It is pointed out by Cannon that the stomach is divided into two parts, the left half, the precedent, and the small right half, the anterior pylori, which produces the movements of food and chyme through the stomach. As a rule both parts of the stomach are not refreshed, or refreshed only for a short time, but under the influence of morphine contraction occurs between the halves, and chyme is retained thus in the left part of the stomach. When Meltzer injected morphine subcutaneously to dogs the outflow from the stomach is retarded or checked for many hours, no chyme and no acid reaches the intestine, and this is the reason that diarrhoea is stopped by the morphine.

Also this fact could be observed only by experiments on dogs, because observations on sick men had deceived physicians as to the location where drugs acted, as in other experiments as to the location of the disease. The observations on patients are observed with a lack of exact localized feeling in the abdominal organs, and observations on patients can be made in the stomach accessible by stomach tubes, but not in the intestine. I recall the well-known experiment of Klebs and Romberg and their collaborations, which demonstrated that heart weakness in infectious diseases is not heart weakness, but is produced by poisons which act upon the center of the vasomotor nerves in the medulla. The real location of the disease could be found by experiments on animals.

Animals allow us to make observations more easily than it would be possible in sick men. During our experiments with many dogs in the last year we have seen sometimes that dogs become sick spontaneously. One of four dogs got diarrhoea, vomited and would not eat. Two days after it seemed completely recovered, it relished food, the stool seemed to be normal. I allowed the animals to eat meat and opened after some time the canals in the duodenum. I found that no gastric juice was secreted. Meat passed unchanged with neutral reaction through the pylorus, and nevertheless it was dissolved and digested completely in the small intestine. Some days after gastric secretion became normal. Similar cases of entire absence of gastric secretion without any symptoms are observed in human pathology. Another dog became sick spontaneously and died. We found on autopsy hemorrhages in the pancreas, but in life symptoms seemed to indicate a gastric disease. The stomach was filled with great quantities of putrefied matter, and nothing could pass through the pylorus. The dog was thirsty and drank much water, but the pylorus was closed, by a spasm. We opened both fistulas in the stomach and the duodenum, washed out the stomach and filled it with warm water. For twenty hours the pylorus was closed, though it was possible to pass a rubber tube through it from the duodenal fistula, so that no mechanical, but a spasmodic closure occurred. After this time the spasm released spontaneously.

It is possible under special conditions to make experiments about the pathology of the stomach in man. Last summer I was in the laboratory on the Monte Rosa between Switzerland and Italy. We climbed to the top of the Monte Rosa, the topmost mountain peak, and determined our loss of weight during the

six hours' climb. We lost 4000 to 5000 gr. The loss of weight seemed to me to be excessive; but I learn now in this country that the losses at times can be still greater. In running contests students lose four pounds in twenty minutes. At the last Yale-Princeton football game, Yale's eleven is said to have lost 114 pounds, and our observations could be repeated easily. The loss is chiefly water, one part of it goes away through the lungs, but the greater part as perspiration. That means that the loss in perspiration is not pure water. Sodium-chloride is contained in it, we saw a great retention of sodium-chloride in the next two days up to 15 gr. a day, and because I had seen in nine days that lack of chlorine disarranged very much the secretion of gastric juice, we have investigated our gastric secretion.

We took in the morning after the great loss of water and sodium-chloride a test breakfast, and took our stomach's contents with the stomach's tube. Only one of the four had a normal value, the three others had only the half of their ordinary total acidity and hydrochloric acid; in one case the contents was scarcely enough for investigation. I have no decisive proof, but I think that much of the distress which is observed after severe continued muscular work, for instance in climbing, is produced by the lack of hydrochloric acid in the stomach.

This is one case in which it was possible, and it will be possible in similar cases to study experimentally men's stomachs. As a rule we are forced to make our experiments on dogs, and I hope that you will see from the experiments recorded here before you, that it is possible to study the experimental pathology of the stomach and of the alimentary canal.

Our experiments are now at their beginning. It is necessary to vary the conditions. We can observe and produce in dogs only hyperacidity, and hyperacidity connected with retardation of movement, we cannot produce non-hyperacidity or hyperacidity associated with high rapidity of movement, when food leaves the stomach too quickly. We could observe, but we could not produce an acidity, a chyle, a total absence of acid in our dogs.

The most important objection against our experiment may be that we do not give anything of therapeutical value. But diagnosis must be the first step in medical treatment. Others may follow.

I feel diffident about diseases before you, teachers, based on observations of a physiologist's experience. I hope you can see that our method may be of some value even for medicine.

LIMITATIONS OF LABORATORY DIAGNOSIS.

Read at the meeting of the Third District Branch of the Medical Society of the State of New York, Albany, October 4, 1910.

By THOMAS ORDWAY, M. D.,

Director of Bender Hygienic Laboratory, Albany, N. Y.

Mr. President and Gentlemen of the Third District Medical Society:

This afternoon you are to hear of some of the most approved forms of modern treatment. In cases so treated the first and most important step is an exact diagnosis of the pathological condition present. This diagnosis is often possible by clinical methods alone, but in some instances can only be secured by laboratory aids, and in still others the coöperation of clinician and laboratory worker is essential. I cannot emphasize too strongly the value of this coöperation, not only to the clinician but to the pathologist in order that they may work more intelligently.

This morning a few well established laboratory procedures were demonstrated, not in the abstract, but as applied to actual cases. Though the results of laboratory methods are usually definite and richly supplement clinical observation and physical diagnosis, they are rarely absolute, and without correct interpretation such methods are apt to be of very limited help, are often misleading, even harmful.

The ordinary diagnosis of laboratory specimens, as well as of clinical cases, soon becomes simple routine, but the very early diagnosis of even the common diseases, as well as that of the unusual, atypical and border-line cases, requires not only long training but keen judgment and careful attention to detail.

From the past year's correspondence and association with medical men of Albany and eastern New York generally, I believe there is necessity for a better understanding of the limitations of the clinico-pathological laboratory. These may be due to several factors, chief among which may be mentioned, *first*, faulty methods of obtaining, preserving, or sending the material for examination,—*second*, the misinterpretation of the laboratory findings,—*third*, faulty technique on the part of the laboratory,—*fourth*, lack of the coöperation between the clinician and pathologist, which is so often essential for correct diagnosis. It is evi-

dent that the technique of the laboratory worker must be accurate and that the specimens must be received in condition suitable for the necessary tests. Apropos of this I would mention the fact that minute amounts of blood in very small glass tubes, sealed at both ends, are commonly received with the request for a Widal test. The sealing of such tubes by direct flame is apt to destroy any agglutinin which may be present and negative results with these samples are of no value, are frequently misleading, and serve to discredit a very valuable aid in the diagnosis of typhoid.

Cultures are often received on various media without regard to the appropriateness; such cultures are rarely controlled by smears. Secretions and excretions, are often dried up or sent in unsuitable or non-sterile containers with the request for bacteriological examination. Fragments of tissue and specimens of body fluids are received in decomposed condition. In all these cases even careful examination is of practically no value. It is essential that material for laboratory diagnosis should be collected and sent in proper condition, in suitable amounts and as fresh as possible, or with the proper preservatives added. These facts may be self evident and elementary but actual experience shows, for example, that it is practically impossible to obtain from clinicians blood suitable for the Noguchi modification of the Wassermann test for syphilis. These facts are true of physicians practicing within easy walking distance of the laboratory as well as of those at a distance. So at the outset, by the unsatisfactory condition of the specimen the laboratory worker is often greatly handicapped and the value of the test lessened.

A pathologist is human and cannot do his best work when it becomes the routine drudgery of the industrial or commercial pathological laboratory, but if he is taken into the practitioner's confidence, told something of the clinical data and his coöperation requested, then each case becomes a new and fascinating problem of varying degree of complexity, on which both clinician and pathologist should work together until the diagnosis is certain. Of coöperation in prognosis and treatment there is also much that might be said.

As in all forms of human endeavor, we have extremists, those on the one hand represented by the youthful laboratory enthusiast, and the older practitioner who, not having had the advantages of modern laboratory training, is bewildered by its results; neither

has a true sense of proportion, the former from too exclusive laboratory work and the latter from the lack of it. Both are detrimental to a true estimation of the value of laboratory findings. On the other hand we find men who belittle the laboratory side, either because their training has been chiefly clinical and didactic or because they are really, even without their volition, envious of the exactness of many laboratory procedures, or because they cannot interpret accurately the findings. Occasionally such prejudice may arise from the fact that the laboratory findings have at times been contrary to evident clinical diagnosis. The laboratory may have been at fault through careless technique, or it is possible the material may have been inadequate.

We must have for the best work friendly relation and active coöperation of both. The pathologist should be somewhat of a clinician and the clinician somewhat of a pathologist. As the clinician is accustomed to seek the aid of men in the special branches of medicine, the eye, the throat, the ear, for example, so is the field of clinical pathology a specialty and in consultation and examination of the patient the pathologist may be able to *suggest* helpful laboratory procedures or *aid* in their interpretation. In many of even the simpler laboratory tests, unless there is coöperation between the clinician and laboratory worker the results are often misleading. Though there is not time to cover the ground completely, I shall point out a few of the most common examples of atypical laboratory findings.

In examination of sputum for tubercle bacilli negative findings are of little value. I cannot emphasize too strongly the necessity for repeated examinations. If the case continues suspicious the request for examination of the entire twenty-four amount of sputum by the "antiformin" methods may be indicated. Many cases of failure to find tubercle bacilli in smears, particularly in urinary sediments, tissues, and exudates should indicate inoculation. The latter should not be considered negative until microscopic sections, appropriately stained, have been examined. On the other hand acid-fast bacilli are occasionally found, especially in feces and urinary sediment which can only be differentiated from tubercle bacilli by inoculation. Dry heat may so alter tubercle bacilli that they fail to retain the acid stain. This suggests that the fatty material is dissolved by the heat; also in many tissues histologically tuberculosis acid-fast bacilli cannot be

found, suggesting that lipolytic ferments also prevent the retaining of the acid stain. In such cases Gram's stain may show Gram positive granules or rods but inoculation is usually required for absolute diagnosis.

In examining surgical specimens (which should always be of fair size and an *average* portion of the abnormal condition), it is often very puzzling and occasionally impossible to differentiate absolutely between tuberculosis, syphilis, and atypical forms of chronic inflammation, though in such cases the correct diagnosis can usually be made by appropriate staining for bacilli or spirochaetes, or by serum or inoculation tests. The clinical data must be carefully considered that it may act as a directive for the necessary laboratory examinations. Though the finding of the *treponema pallida* by any of the various staining or vital methods and the testing of the patient's blood serum by the Wassermann test or its modifications, are of very great value in the diagnosis of syphilis, such examinations must be made with great care and by a man of experience, for there are other forms of spirochaetes which are confusing, and the serum tests must be most carefully guarded with positive and negative controls. At times, in spite of great care the tests will turn out unsatisfactorily and should be so reported and other specimens examined. These biological tests are very delicate, have many pitfalls and are only of value when done with the utmost care and sufficiently controlled.

In regard to diphtheria there is occasionally misunderstanding of the laboratory findings. If the case is clinically very suspicious antitoxin should be given at once before waiting the result of laboratory examination. Rapid diagnosis from smears is only of value when positive. Occasionally in cases of clinically obvious diphtheria with membrane the culture is negative. This may be accounted for by the fact that unless the swab is carefully and firmly rubbed about the edge of the advancing membrane, secondary invaders may predominate. More often among these are a few bacilli resembling atypical forms of the Klebs-Loeffler bacillus. Such cases are reported "suspicious;" this culture is reincubated, one reinoculated, and another culture requested. In eight or ten hours the cultures are again examined and if the suspicious forms were diphtheria bacilli it is usual to have by this time typical forms which warrant an absolute diagnosis, for it must be understood that there are many forms of

true and false diphtheria bacilli, and certain types only are sufficient evidence for positive diagnosis. In these cases surely a preliminary *positive* diagnosis is impossible; a diagnosis of *negative* is not in accordance with the findings and would be misleading; antitoxin might not be given early enough, if at all, and quarantine precautions might not be taken. Again, if without sufficient evidence a diagnosis of positive is given, when on re-incubation or examination of other cultures the case is proved negative, a great harm often results as the patient may have been sent to a diphtheria ward. Furthermore the fact that a patient has positive cultures does not necessarily mean that he has the disease diphtheria, but it does mean that other people should be safeguarded, as is the case with so-called typhoid carriers. This is particularly apt to occur in children with "running" noses or ears. In the latter case, and in smears from wounds, bacilli may be found which morphologically are identical with the Klebs-Loeffler bacillus, having even the typical "nail" arrangement and metachromatic granules; yet fermentation and virulence tests show them to be non-pathogenic pseudo forms. Cases of true laryngeal diphtheria rarely have positive throat cultures when these are taken in the usual manner. This is often misleading and may cause confusion between the diagnosis of laryngeal diphtheria and simple catarrhal laryngitis, the so-called croup.

In typhoid fever and allied forms, blood cultures from the ear or vein during the first week furnish a positive diagnosis in practically all cases, the so-called Conradi test. This may also be of value in cases of recrudescence or relapse. If the blood is examined during the first few days, fifteen drops usually suffices, but as the bacilli rapidly disappear from the peripheral circulation, larger and larger amounts of blood are necessary as the disease progresses. It usually happens that the Widal reaction is obtained just as the bacilli are disappearing or are isolated with difficulty from the peripheral circulation, so one test efficiently supplements the other. Occasionally, however, the complete agglutination is delayed until the latter part of the disease, even in typical cases with haemorrhage, or only partial agglutination in lower dilutions is obtained. Such cases are reported as "suspicious" in strict accordance with the findings, but repeated tests with agglutination successively greater and in higher dilutions may give valuable evidence. At times agglutina-

tion is absent or suggestive with the typical stock typhoid and is marked with a culture of paratyphoid, usually alpha, or a stock typhoid from some other source.

Instead of condemning the Widal test as of little value, and this frequently happens, correct interpretation, repeated examination of properly obtained samples of serum, in different dilutions, and occasionally bacteriological examination of urine and stools by the Endo or other newer methods may aid in the absolute diagnosis when the Widal reaction is much delayed or when it is too late to isolate the organisms from the blood. I must mention again the fact that negative tests on minute amounts of serum, in which the agglutinin has been destroyed by heating the ends of the tube in the flame, are of no value, and that dried blood is not satisfactory for making accurate dilutions. I cannot emphasize too strongly the necessity for repeated examinations in cases with negative or suspicious findings. The Boston Health Department fully recognizes this and always requests other cultures or preparations when the results are suspicious or inconclusive.

In certain cases of undoubted appendiceal colic, so-called, the appendix may be histologically negative for the retrograde and chronic inflammatory changes in the submucosa, recent haemorrhage in the mucosa or slight excess of mucous secretion cannot be regarded as abnormal, since these changes are found in practically all appendices, removed post-mortem, or as routine in other abdominal conditions.

There is little question regarding the great value of histological *diagnosis* of tumors, though prognosis is much more uncertain, the number of dividing cells, and the amount of stroma are not accurate guides to the degree of malignancy. Occasionally tumors appearing clinically and histologically malignant, such as the so-called lympho-sarcomata, of the throat, may undergo spontaneous retrogression.

Another phase of laboratory work is that of post-mortem examination, a most useful method of instruction. There is no better way of becoming expert in diagnosis than by careful clinical observation and examination which is confirmed or disproved by post-mortem findings. The method of conducting post-mortem examinations is important, small incisions and large guesses can never take the place of careful and complete macroscopic and microscopic study.

The great tendency is to become superficial; there should be acquired the habit of taking careful histories, making complete physical examinations, insisting upon accurate and repeated laboratory tests, anatomical, bacteriological or chemical as an aid to exact diagnosis, these tests supplement but do not supplant clinical methods. The laboratory worker should be met half way, coöperate with him, study puzzling cases together, and these will become most interesting problems from which you will both learn more than by the casual local examination of *many* cases.

I am particularly interested in the interdependence and relationship of the special branches to general medicine, in the need and practical application of clinical research in the various departments, having as a foundation the practical study of general medicine. We should have a "reasonable knowledge" of all departments that we may be at least *safe* practitioners. Even many years ago James Jackson said there was "more known in medicine than the mind of one man could grasp." Blake has said it is "impossible for any one student to cover completely and adequately all the ground, and we realize that it is the study of the infinitely little which establishes the immeasurably great." The first tendency in specialism is to lay stress upon the special character of the investigation to be followed and to emphasize its individuality, but with the broadening study its relation to and dependence upon general scientific research becomes more and more evident. Specialized specialism ceases to exist in proportion as it separates itself and grows and broadens only as it keeps up its relationship with the main body."

To ask for assistance in the proper case and at the right time is not a confession of ignorance or weakness but a sign of knowledge and good judgment.

We need better training, not only in anatomy (including histology and embryology), in physiology, and in the pathology of the human being, but also of the lower animals, for as is shown by the fundamental law of biogenesis, the development of the individual is but an epitome of the development of the race.

In this way we may hope to understand better the normal and pathological processes of the entire body. This with accurate clinical observation and experience is the key to all intelligent treatment, which aims at every possible alleviation or cure of disease, for, as Dr. Holmes says, "there is no general dogma

other than this, disease is to be treated by anything that is *proved* to cure it."

We should aim to make clinical research real scientific investigation, as most specialists do, for "the expert is one who has been in the habit of trying."

Though special work lies in restricted fields, we should not allow their artificial boundaries to obscure the entity of medicine.

THE SERUM DIAGNOSIS OF SYPHILIS.

REPORT OF ONE HUNDRED AND SIX CASES.

By HARRY S. BERNSTEIN, M. D.

(*From the Pathological Laboratory of the Boston City Hospital and the Bender Hygienic Laboratory.*)

The phenomenon of complement-fixation observed by Bordet and Gengou in 1901 and later applied by Wassermann to the diagnosis of syphilis marks an important advance in serology. In a disease so widespread and with manifestations so varied, the detection of the syphilitic antibody offers invaluable aid to the clinician. During the past three years, the literature has contained many records of large series of cases, examined with a view to determine the reliability of the test. Consequently, the test has been employed in cases of known syphilitic and non-syphilitic affections. The purpose of the small series herein presented has been not only to detect the presence of syphilis in a given case but also to ascertain whatever supplementary evidence there may be, clinical or pathological.

In the present series the Noguchi modification of the original Wassermann test has been used; and I am indebted to the physicians of Albany and vicinity for cases furnished. In all, ninety-three tests were done. Of these twenty-seven were positive, and sixty-six were negative.

The positive cases readily fall into four classes. Those presenting primary, secondary, and tertiary or the so-called "para-syphilitic" lesions form three; the cases presenting symptoms other than those usually associated with syphilis form the fourth. Three cases of the positive series come in the first group, six in the second, seven in the third, and eleven in the fourth.

The earliest positive reaction was obtained three weeks after the appearance of a primary lesion on the tongue. Of the late positive reactions, two were obtained ten years, two twelve years, and one seventeen years after infection.

One patient of the first group presented a lesion on the penis two months after coitus. The lesion was atypical. The reaction was done one month later and proved positive. Six weeks afterwards, typical secondary symptoms appeared, thus clinically confirming the serum test. A patient of the second group, with rash and marked general glandular enlargement, showed the vestige of a primary lesion of two months' duration. From the deep curettings of the latter, spirochaete pallida were demonstrable by Ghoreyeb's method. Still more noteworthy is the case of a male, aged twenty-five. He gave the history of a questionable primary lesion three years ago and for the past six months has shown only at times a rash, limited to the trunk, unaccompanied by itching. The eruption was atypical and the reaction strongly positive. In that he contemplated marriage, he was put on mercurial treatment.

The persistence of a positive reaction after inadequate mercurial treatment was seen in three of the seven cases of the third group. One adult with history of infection ten years previous had undergone anti-syphilitic treatment for one year; the objective symptoms he presented were sluggish pupillary reflexes. Similarly, a female, twenty-seven years of age, with a bony tumor over the right orbit gave a positive reaction; her history dated back three years when for four months she was given mercury. Moreover, a tabetic with optic atrophy belongs to the positive series, although he had been two and one-half years under treatment. Particularly interesting was a positive serum test in the case of a male who showed a deep ulceration below the knee. The histological picture of the curettings from this ulcer suggested syphilis which the patient acknowledged he had contracted ten years previously.

Positive reactions were also obtained with the spinal fluid of two neurological cases. In both fluids, the butyric acid reaction, a high cell count, and excess of lymphocytes in the smear helped to confirm the complement-fixation test. One of these cases presented a well marked Argyll-Robertson pupil, the other showed unequal pupils and slurring of speech.

The fourth group of the positive series consists of eleven cases

without any signs of syphilis. It includes two cases in which multiple chancroids obscured specific infection. There was one case also which had been on mixed treatment for six months, infection having taken place twelve years ago. Still another case reacted positively three months after infection, and again four and one-half months later; he had meanwhile been given large doses of protoiodide of mercury. A case showing marked cardiac symptoms only with a history of syphilitic infection twelve years previously gave a positive test; post-mortem examination revealed chronic interstitial myocarditis and multiple gummata of lungs and liver. The serum, collected post-mortem, from a case of an aneurism of the ascending arch gave also a positive reaction, which helps establish syphilis as an etiological factor.

Of the sixty-six negative cases, there were fourteen which probably had been infected; four were tabetic in this series and one an autopsy case, which showed a large aneurism of the transverse arch. Eleven of these fourteen cases had been on mercurial treatment from two and one-half years up. The remaining three, curiously enough, though children with lesions of congenital syphilis, reacted negatively.

The other fifty-two cases of the negative series comprise various conditions both medical and surgical; and those will be noted in which the serum test helped exclude syphilis. In many of these, other laboratory tests and subsequent clinical developments corroborated the serum reaction. Thus five cases were definite chancroidal infections. One case was unusual; a young woman presented on the upper lip a large ulcerating lesion which apparently was rapidly progressing. The character of the case and of the lesion admitted other diagnoses. Few days after the reaction was done, a rash strongly suggestive of syphilides suddenly appeared. It disappeared promptly, however, when the high doses of potassium iodide was stopped. The bacillus of Ducrey recovered in smear and culture from the lesion brought additional testimony in favor of non-syphilitic infection.

Five cases of tuberculosis likewise belong to the negative series; one of tubercular meningitis, another of general miliary tuberculosis. The latter may have resulted from a tubercular knee which in the early stage had been taken for a Charcot joint. Two of the remaining three cases showed extensive ulceration of the nose and hand. Microscopic section of tissue from both of

these were histologically consistent with tuberculosis. The fifth case was that of a young man with necrosis of the frontal bone. His history included an operation for tubercular cervical adenitis. This fact and a negative serum reaction make tuberculosis the more probable factor in the osteomyelitic process.

In five neurological cases the test was made with cerebrospinal fluid. As further evidence the non-specific character of the lesion suggested by the negative result, the butyric acid reaction was done in four of these cases and found negative. A negative test was also obtained with the serum of a case of transverse myelitis in a man of sixty, probably due to arterio sclerosis. Another negative reaction in a woman whose husband was syphilitic and who was delivered of a syphilitic foetus forms a striking example of Colles' law.

To further correlate laboratory findings and the serum test, the reaction was done as a matter of routine on autopsy cases at the Pathological Laboratory of the Boston City Hospital. Thirteen cases were thus done. Of these seven reacted negatively, and in their anatomical diagnoses and clinical history there was nothing to point to syphilitic infection. Six cases reacted positively and it may not be amiss to report them in some detail.

CASE I. No. 155 (medico-legal). Male, aet. 48. To quote from the records, "Evidence of syphilitic disease of the brain. Syphilitic Aortitis." Clinical history—Patient brought to hospital in a semi-conscious state. Diagnosis of tabes and general paresis made.

CASE II. A-09-113. Female, aet. 48. Hours post-mortem $6\frac{3}{4}$. Anatomical diagnoses—Cerebral hemorrhage, chronic frontal periostitis. Clinical history—Four miscarriages and one still-born.

CASE III. A-09-116. Negro, aet. 42. Hours post-mortem $14\frac{1}{2}$. Anatomical diagnoses—Fatty heart, chronic pericarditis, general anasarca, chronic leptomeningitis. No clinical history obtainable.

CASE IV. A-09-127. Male, aet. 53. Hours post-mortem 11. A positive serum reaction was obtained during life from this case. Anatomical diagnoses—Chronic endocarditis, infarcts of lungs. Clinical history—Gonorrhoea and chancre 16 years ago.

CASE V. A-09-130. Male, aet. 47. Hours post-mortem 8. Anatomical diagnoses—Cerebral softening and edema, ependymitis, myocarditis, generalized sclerosis. No clinical history obtainable.

CASE VI. A-09-033. Male, aet. 29. Hours post-mortem $1\frac{1}{4}$. Anatomical diagnoses—Acute fibrinous pericarditis, empyema, acute suppurative vesiculitis and prostatitis. Although there was no gross evidence of syphilis, the clinical history showed that he had a chancre one year ago.

In the above cases, cruor clot and fluid blood were collected in test tubes, as the pulmonary artery and veins were severed.

On long centrifugalization, ample serum was obtained; in the cases many hours post-mortem, some degree of hemolysis occurred but this was never marked enough to interfere with the reaction. Summary:

Number of tests done.....	106
Positive cases with clinical evidence of syphilis.....	33
Negative cases with clinical evidence of syphilis.....	14
Negative cases of non-syphilitic origin.....	59

In view of the experience with the serum reaction above given, it may be safely concluded that the test forms a valuable adjunct to the methods of diagnosis of syphilitic disease. It is essentially a laboratory test, dependent upon sensitive biological products. Each test must, therefore, be performed with positive and negative controls. If these safeguards are not taken, the resulting misinterpretations will unjustly discredit the value of serum diagnosis.

It is my pleasure to acknowledge with thanks the assistance of Drs. Noguchi and Ordway.

Editorial

Since my Lady Mary Wortley Montague brought home the custom of inoculation from Turkey (a perilous practice many deem it, and only a useless rushing into the jaws of danger), I think the severity of the small-pox, that dreadful scourge of the world, has somewhat been abated in our part of it; and remember in my time hundreds of the young and beautiful who have been carried to the grave, or have only risen from their pillows frightfully scarred and disfigured by this malady. Many a sweet face hath left its roses on the bed on which this dreadful and withering blight has laid them. In my early days, this pestilence would enter a village and destroy half its inhabitants: at its approach, it may well be imagined, not only the beautiful but the strongest were alarmed, and those fled who could.

WILLIAM MAKEPEACE THACKERAY.

The History of Henry Esmond, Esq.

The infrequency of cases of human rabies and Rabies. the somewhat equivocal character of some of its symptoms, still justify many competent physicians in holding doubt as to the existence of this disease. But the gradually increasing number of reports of its occurrence coming from authoritative sources ought now to establish beyond any question its existence and the reality of its dreadful course and result. An exhaustive and temperate resumé of the subject has recently been issued by the Public Health and Marine Hospital Service. Bulletin No. 65 of the National Hygienic Laboratory presents the subject from an historical and practical standpoint under the authorship of Passed Assistant Surgeon A. M. Stimson. This pamphlet is entitled "Facts and Problems of Rabies," and should be consulted by all physicians.

It appears that rabies has attracted attention ever since the time of Aristotle, in the fourth century, B. C., and Caelius Aurelianus in the second century gave the following description, which may be recognized at the present day as exact:

"In the beginning of the attack, anxiety with no reason for it, irritability and malaise, restless movements, sleep light and disturbed, insomnia, stretching and continual gaping, and an unremitting desire to vomit, an unusual susceptibility to air, no matter how quietly the patient may have been resting, intolerance and loathing of liquids, little desire to drink. When the disease is established, there is thirst and at the same time dread of water, at first at the sight of it, later of the very sound or mention of it. This fear extends to oily preparations. The pulse is small, hard, and irregular; in certain cases there is a light fever. There are eructations; heaviness of the limbs. The diaphragm is displaced upward and the functions of the intestines suppressed. Urination becomes frequent and of small amounts. There is nervous spasm and trembling. The voice is hoarse like the bark of a dog; breathing is difficult, the body drawn up. Generalized convulsions are occasioned by the entry of persons for fear that they may be bringing water. The face and eyes are congested, the body emaciated. Pallor and sweating of the upper parts. Frequent erections and seminal emissions. The tongue is protruded, there is hiccough, bilious vomiting, frequently black, fear of drink, the hands being held before the eyes on the approach of the drinking vessels, etc."

In the early part of the 19th century, rabies attracted the

attention of numerous physicians, and inoculation and other observations possibly suggested by the then recent studies of vaccination and smallpox were made. The disease was recognized in America as early as 1768. In 1908 only ten states or territories were free from the disease in man or animals, and reports of 111 deaths were received during that year. In Great Britain the disease is now extinct, and this is attributable to the result of wide suppressive measures. It is also practically extinct in Scandinavia.

Among animals, all warm-blooded species may be susceptible, but the disease appears most frequently in those mammals subjected to the bites of dogs, wolves, coyotes, etc.

The symptoms of rabies all point to a disturbance of the nervous system, and the anatomical changes abundantly confirm the idea that this is the part of the body primarily affected. Certain glandular organs share in the affection to the extent of disturbance of function and of containing the infecting agent. That the disease is an infectious one, *i. e.*, produced by the invasion of a pathogenic microorganism emanating from a previous case of the disease, is strongly suggested by the symptoms and the manner of conveyance, and is proved by the fact that all the parts of the nervous system, as well as some glandular structures and secretions, produce the same symptoms and results when inoculated experimentally into a healthy animal.

The most generally accepted view as to the manner of the pathogenesis of the microorganism causing rabies is that upon its introduction beneath the epidermis or mucosa it finds its most favorable or perhaps its only favorable medium for propagation in the nerve endings or torn fibers of the region. Along the course of these it develops, not disturbing their function, although rendering them infective, until the central nervous system is reached. Here the nerve cells are attacked, the first effect being a superstimulation of their activity, the final result a destruction. At the same time, as certain authorities maintain, there occurs the production of a toxin extra, or intracellular, which is responsible for some of the symptoms.

Pathological investigations show congestion and punctate hemorrhages of the meninges, increased in amount, and pressure of the cerebrospinal fluid, and areas of softening in the brain and cord, sometimes visible to the naked eye. Perivascular infiltration is general throughout the central nervous system and

in the peripheral ganglia. Degeneration and proliferation of cells are quite common.

Two strains of rabies virus are recognized, the street virus, a very virulent poison, and the fixed virus, which is modified from the former by passing through a long series of rabbits.

The incubation period of the disease is remarkable for its length and variability. Its length is in nature seldom under ten days, and may extend over many months. It is difficult to say what the longest period has been; but it is generally admitted that a year or more is not impossible. The majority of cases occur before the end of the third month. Extremely long periods as reported always lead to the suspicion of a mistake or the occurrence of an unobserved or forgotten intermediate exposure. The fact that the saliva of animals may possess infective properties several days before the outbreak of significant symptoms may explain the occurrence of unsuspected infections within the supposed incubation period, since trifling bites or licking of abraded surfaces by an apparently healthy dog would be likely to escape attention or be forgotten.

During the period of incubation no unusual symptoms are complained of. The wound heals as other wounds do without any specific phenomena. Some persons are very anxious about the outcome, and may get into a condition of nervous excitement; but they are as likely to do so after harmless as after infected wounds.

Rabies presents at least two clinical types. These are the furious or excited, and the quiet, silent or paralytic. Paviot and Lesieur distinguish, according to the portion of the nervous system most involved, four types of the disease: Cerebral, medullary, cerebellar, and sympathetic.

In the excited or furious type, the onset is generally rapid. The patient usually shows some physical change very early, becoming anxious, melancholy, and oppressed with a strange presentiment of harm. Insomnia is complained of. Such symptoms, however, are in many cases absent at first, and local numbness, tingling, itching, and formication in and progressing centrally from the wound may be the only disturbance. The wound or scar may become somewhat engorged and tender. Sometimes the first symptom complained of is a strange sensation in the throat, difficulty or discomfort in swallowing, a sense of constriction of the fauces.

The symptoms usually progress without delay after the preliminary signs are observed. The forewarning symptoms may last several days before the decided outbreak, but usually only twenty-four to forty-eight hours. The "grand symptom," hydrophobia, is present in the majority of cases, although influenced by the patient's disposition and surroundings to a considerable extent. It arises from the extremely painful spasms of the organs of deglutition and respiration, which are induced by attempts to eat or especially to drink. These spasms are often of such agonizing character that the thought of them causes a mental anguish not exceeded in the possibilities of human suffering of physical origin. Consequently the sight, smell, or sound of liquids suggests the act of swallowing and is sufficient to bring on an attack in many cases.

The convulsive seizures become more frequent and severe and distributed over a larger area. Sometimes the muscular contractions are so severe as to cause rupture of the muscles. Small hemorrhages from mucous surfaces and elsewhere may occur. Vomiting is a rather frequent symptom, and the vomitus is often black. The color is said to be due to regurgitated bile, but blood also is sometimes found.

In the paralytic type, the onset occurs with high fever, general malaise, cramps, headache and vomiting, much as in the ordinary convulsive form. Afterwards occur localized pains, ordinarily in the bitten parts, but rarely so when these are in the lower extremities. A heaviness and numbness of these parts follow, then ataxia and weakness followed by more or less complete paralysis. A girdle sensation is frequently complained of. Anaesthesia is uncommon. Consciousness is ordinarily retained, at least until late in the disease.

The paralysis spreads with preceding or accompanying pains of the affected parts, invading the limbs, trunk, rectum and bladder, face, tongue, and eye muscles. Respiratory involvement is variable in the time of its appearance and severity. Inspiration is more affected than expiration. Dyspnoeic convulsions may result when the condition is severe.

More or less difficulty in swallowing liquids results from the respiratory embarrassment, but the symptom "hydrophobia" is caused more by the imagination than by the disease. Frequently normal respiration may be restored for a time. Death occurs by cardiac paralysis, according to this author.

With reference to immunity, it is now established that man and animals may be rendered immune by inoculations with the modified virus, and that their blood acquires rabicidal properties by which it renders inert the virulent material exposed to its action. The treatment consequently rests upon the possibility of producing immunity, as it is probable that the virus of the disease attacks the terminal nerve filaments, and then proceeds slowly along the nerve trunk until it reaches the cerebrospinal centers. The plan of preventive inoculation rests upon efforts to produce an antagonism in the nerve centers in advance of the invasion of the poison.

This is the explanation of the Pâsteur treatment and its successors. For the immediate prophylactic treatment of exposed persons, prompt cauterization of the wound is undoubtedly a benefit but is efficient only if immediate and thorough. The best method is to touch thoroughly all parts of the wound down to its depths with nitric acid, as is appreciated from the general history of this disease there is no curative treatment after the symptoms of hydrophobia have become manifest.

Scientific Review

NEW METHODS FOR CONCENTRATING TUBERCLE BACILLI IN SPUTUM.

I.

On account of the tenacious, and often non-homogeneous, nature of sputum, the ordinary methods of preparing specimens for examination are frequently unsatisfactory. This is especially true when the sputum contains but few bacilli. When large numbers are present, evenly distributed throughout the specimen, there is no difficulty in detecting them in almost any portion removed with the platinum loop but when only a small number are expectorated daily, the chances that they will be found in one or even in ten loopfuls (öse) taken at random from the day's sputum are slight indeed.

The inadequacy of sputum examinations as ordinarily practiced has long been recognized and many attempts have been made to devise methods by which the sputum could be rendered non-tenacious, thin and liquid in consistency and the tubercle

bacilli could be set free and concentrated. These "enriching" (anreicherung) methods have usually included the "homogenization" of the sputum by means of an alkaline solution dissolving the mucoid and purulent portions of the specimen or the same result has been secured by the use of digestive ferments. In certain methods mechanical breaking up of the tenacious sputum mass by shaking the sputum with glass beads or shot has been tried. The Biedert Method, one of the best known of the older methods (*Berliner klinische Wochenschrift* 1886 Nr. 42 and 43 and 1887, Nr. 2) consisted in the dilution of the sputum with water, the addition of a few drops of 10 per cent sodium hydrate, meanwhile heating and stirring the sputum until the stringy masses of mucus completely disappeared, after which the mixture was allowed to stand and the sediment was later examined for tubercle bacilli. If too much alkali was added or it was allowed to act too long at a time the staining properties of the tubercle bacilli were impaired. Various modifications were afterwards made by Mühlhauser (*Deutsche Medizinische Wochenschrift* 1891, 282) and Czaplewski (*Zeitschrift für Tuberkulose*, 1900, 387), Ketel, Moeller, Lannoise and Girard, Jochmann and others introduced procedures having the same general purpose but none of them offered great advantages over careful examination by the ordinary method. They are discussed and compared at some length by Dilg (*Centralblatt für Bakteriologie*, 1903, Bd 35, Nr. 3) and Beitzke (*Hygienische Rundschau*, 1902, 12, —1).

Within the last two or three years a number of new methods based on similar principles have been proposed which seem to promise better results. The first which will be considered here is the Antiformin Method of Uhlenhuth.

THE ANTIFORMIN METHOD.

Antiformin is the trade name of a proprietary German disinfectant patented in 1900 by Tornell and Sjöo and described in the "patentschrift" as a cleaning solution for use in the fermented liquor industries, consisting of an alkali-hypochlorite solution of which an alkaline hydrate is added in the proportion of one-half to one part of the latter to one of the former. On account of its property of rapidly dissolving slime it was extensively used for cleaning vats and pipes in breweries.

Antiformin was however not used to any great extent in bacteriological work until 1908 when its properties were studied by

Uhlenhuth (1) and others. He speaks of it as consisting of equal parts of Javelle Water and a 15 per cent watery solution of sodium hydrate. By Javelle Water he apparently means a solution of sodium hypochlorite rather than of potassium hypochlorite as in the true Eau de javelle. A solution of either the sodium or the potassium salt would conform with the description of the article already mentioned as being given by the inventors in the "patentschrift."

As a matter of fact most of those who have worked with antiformin have used either the patented article or home-made mixtures in which a solution of *sodium* hypochlorite has been employed. Brown and Smith (2) however used a solution of *potassium* hypochlorite practically the true Eau de javelle of the French Pharmacopoeia.

Whatever the exact method of preparation may be, the combination of an alkaline hypochlorite solution with an alkaline hydrate solution in the proportions used by the inventors of Antiformin results in the formation of a substance having properties possessed by neither of the ingredients. Antiformin is, according to Uhlenhuth, one of the best known solvents. Pig bristles and horse hairs are completely dissolved in half an hour while in concentrated caustic potash solution there is no such effect after six days. Insects, including beetles, quickly disappear as do wool and silk. Most bacteria are dissolved in a few minutes "like sugar in water." Cholera vibrios, spirochetæ and trypanosomes are dissolved in 0.5 per cent solution in five minutes while 2.5 to 5 per cent solution suffice to destroy most of the vegetative forms of bacteria. This effect is not due to the alkali contained in antiformin for even 10 per cent solutions of caustic potash and 20 per cent solutions of caustic soda do not dissolve bacteria as efficiently as does a 5 per cent solution of antiformin which contains only 0.38 per cent of sodium hydrate. Javelle water has some solvent effect on bacteria but not as much as antiformin. Chlorine alone has no such effect. The solvent property seems to be the result of a "fortunate combination of the chlorine and the alkali." Antiformin, however, is not a universal bacterial solvent. Tubercle bacilli are not readily affected and according to Uhlenhuth stain well even after being kept several days in 50 per cent antiformin. The addition of 20 to 25 per cent of antiformin to sputum is said not to kill tubercle bacilli even after four days though they may be killed in shorter

time when in watery solutions. This resistance to the action of antiformin is shared by other acid-fast organisms and is probably connected in some way with the waxy constituents of these bacteria. Wax is not dissolved by antiformin nor is cotton though wool is. The spores of anthrax bacilli and other spore bearing bacteria resist its action. Uhlenhuth's method for using antiformin to facilitate the detection of tubercle bacilli in sputum as given in the *Centralblatt für Bakteriologie Beilage zur Abt. 1*, 1908, XLII, 62 is as follows:

Take 20 to 30 c. c. of sputum, add 15 c. c. of pure antiformin and dilute up to 100 c. c. with distilled water so that a 15 per cent solution of antiformin results. After two to five hours the resulting homogeneous mass is centrifuged and the sediment after being washed several times in physiological salt solution is stained for tubercle bacilli or used for culture work. In the *Medizinische Klink*, 1909, V, 1296, he advises for the detection of tubercle bacilli in sputum, the use of an antiformin-sputum mixture containing 20 to 25 per cent of antiformin. After homogenization, 10 to 20 c. c. are centrifuged and the sediment is washed in physiological solution to remove the antiformin which would otherwise interfere with the attaching of the sediment to the slide. Particular attention is called to the advisability of diluting the sputum-antiformin mixture before centrifuging so as to decrease the specific gravity and favor sedimentation.

Various modifications of Uhlenhuth's methods have been made by subsequent workers. These affect the different steps in the procedure and concern the variety of antiformin used (whether the commercial patented article or extemporaneous preparations), the strength of solution employed, the time allowed for homogenization, the agitation or shaking of the specimen during the process, the addition of various substances for the purpose of changing the specific gravity of the sputum-antiformin mixture, the method of securing sedimentation whether by centrifuge or in a sediment glass, the washing of the sediment, the transfer to the slide and measures used for fixing the sediment to the slide.

Choice of Solution: Most of the workers have used the commercial antiformin. This can be bought very cheaply in Berlin where if obtained in amounts as large as 40 kilograms, it costs only about $2\frac{1}{2}$ pfennigs a litre. One kilogram costs

three marks. The American antiformin is somewhat more expensive.

Various formulae have been used in preparing home-made antiformin which apparently gives equally good results as the patented article. Uhlenhuth states that antiformin is Eau de javelle plus an equal amount of a 15 per cent solution of sodium hydrate. As Goodman has pointed out he evidently means by Eau de javelle a solution of sodium hypochlorite instead of potassium hypochlorite as in true French Javelle water.

Goodman's (3) technique for making antiformin is as follows:

One hundred and fifty grammes of calcium hypochlorite are thoroughly triturated with 200 c. c. water, added gradually, until a uniform mixture results. After standing a short while to allow the heavier particles to subside, the supernatant fluid is filtered off, the residue is treated with 200 c. c. water and the whole is transferred to the filter and when the liquid has filtered off the residue is washed with 100 c. c. water.

One hundred and fifty grammes of sodium carbonate are dissolved in hot water and added to the above obtained filtrate. The mixture is thoroughly stirred and if it should become gelatinous it is warmed until the contents become liquefied. The whole is transferred to a new filter and when the fluid has filtered off the residue is washed with enough water to make the product weigh 1,000 grammes, or measure 1,000 c. c. 30 grammes of sodium hydroxide are now added. The mixture is kept in brown bottles with rubber stoppers, protected from the light. It contains about 6.5 per cent available chlorine and 3 per cent sodium hydroxide.

Paterson (4) defines antiformin as equal parts of liquor soda chlorinatae (B. P.) and a 15 per cent solution of caustic soda, and describes the preparation of the former as follows:

Sodium carbonate	600
Chlorinated lime	400
Aquae dest	4,000

Dissolve the sodium carbonate in 1,000 cubic centimetres of the distilled water. Triturate thoroughly the chlorinated lime in the remainder of the water. Filter. Mix the two and filter again.

Brown and Smith used Javelle water (Liquor potassae chloratae N. F.) of which the preparation is described as follows in Remington's Practice of Pharmacy, Philadelphia, 1897, p. 1357:

Potassium carbonate	58 gm.
Chlorinated lime	80 gm.
Water a sufficient quantity to make	1,000 gm.

Mix the chlorinated lime with 400 gm. of water, dissolve the potassium carbonate in 300 gm. of boiling water and pour the hot solution into the mixture first prepared. Shake the flask well stopper it and set aside to cool—then add enough water to make the contents weigh 1,000 gm. Equal parts of this Javelle water and a 15 per cent solution of sodium hydrate made their anti-formin.

The strength of solution employed: This has varied. Most workers have used sputum-antiformin mixtures containing from 15 to 25 per cent of antiformin. Stronger solutions might be used without affecting the staining properties of the tubercle bacillus. Uhlenhuth and Hüne (5) have shown that concentrated solutions of antiformin do not affect the staining properties of tubercle bacilli in sputum for at least forty-eight hours, and 25 per cent solutions, not until after eight days. Stronger solutions however leave less sediment and render the search for tubercle bacilli more trying to the eye. Moreover it is an advantage to have a certain amount of undissolved sediment which carries down the tubercle bacilli with it as it settles. If the antiformin solution is too weak the sediment will be excessive and the flakes of partly dissolved material may retain tubercle bacilli and prevent them from settling to the bottom of the glass. When a 5 per cent solution is used the mixture is mucoid and tenacious, cloudy and brownish in color. As the percentage of antiformin is increased, it becomes clearer and takes on a certain yellow tint which becomes paler and paler. Finally the fluid is clear as water. According to Goerres (6) the solution should be carried to the point where the clear fluid has a pale yellow color. When this condition is secured, the viscosity of the mixture may be considered to be diminished so that the specific gravity of the tubercle bacilli is greater than that of the fluid in which they are suspended and it becomes possible for them to sink to the bottom of the tube during the process of centrifuging. The strength of the antiformin solution must vary somewhat according to the character of the sputum. Thick ball-like masses of muco-purulent sputum requires stronger antiformin than thin watery specimens.

The time allowed for homogenization will naturally vary with the strength of the solution. The same effect may be produced by the long continued action of weak solutions as by the stronger solutions acting for a short time. Meyer (7) recommends for the use of physicians who have neither centrifuge or incubator, sputum-antiformin mixtures containing 3 per cent of antiformin, which are allowed to stand for three days in sediment glasses.

Moderate warmth accelerates the homogenization, which takes place more rapidly at 37 degrees in the incubator than at room temperature. Meyer leaves the 20 per cent mixture 24 hours at room temperature, 4 to 6 hours in the incubator. Paterson allowed his 20 per cent mixtures to stand 24 hours at room temperature. Lagrèze (8) allowed 20 per cent mixtures to stand for six hours. Goodman used a 50 per cent mixture of sputum with his home-made antiformin which he placed on a boiling water bath and found it had become homogeneous in 15 to 20 minutes. He says he has left the mixture in the incubator at 38 degrees for 24 hours and has still found tubercle bacilli in it in great numbers. Seeman (9) recommends homogenization at a warm temperature. He adds to the sputum 10 to 20 times its volume of 15 per cent antiformin; after shaking the mixture it is kept at a warm temperature for from 10 to 45 minutes during which it changes to a cloudy yellow fluid which later becomes colorless. Koslow (10) homogenizes the sputum by continued shaking with pure antiformin for 5 minutes. If the sputum is thick an amount of antiformin equal to sputum is used; if thin, only half the amount.

Agitation of the mixture favors homogenization. Hüne (5) shakes the preparation frequently during the first 10 minutes and several times during the next half hour. Koslow (10) shakes a mixture of sputum and pure antiformin continuously for five minutes. Lagrèze (8) uses 25 per cent antiformin which he adds to the sputum in the proportion of two to one, or four to one, and by frequent shaking and stirring obtains homogenization in about 15 minutes. Schulte (11) adds to 10 c. c. of sputum, about 20 c. c. of 50 per cent antiformin and shakes the mixture frequently during 10 to 30 minutes, while homogenization is taking place. Thilenius (12) uses 20 to 25 per cent antiformin according to the consistency of the sputum and agitates the mixture for 20 minutes in a shaking apparatus.

Measures for reducing the specific gravity of the sputum-anti-

formin mixture: These have been suggested on account of the disturbing effect of the high specific gravity which may be as great as that of the tubercle bacillus when the sputum is thick and tenacious. The simplest measure for this purpose consists in the addition of water to the homogenized fluid. Uhlenhuth (1) and Goerres (6) recommend the addition of water or alcohol. Lagrèze (8) also adds water. Hüne (5) adds absolute alcohol, then a few drops of acetic acid then distilled water and ether for the same purpose. Schulte (11) adds 30 c. c. of alcohol to 30 c. c. of the homogenized mixture. Uhlenhuth (1) has suggested the addition of sugar of lead. The various combinations of the antiformin with "ligroin" and other methods to be discussed later have the object of overcoming this difficulty. In the majority of cases however no great difficulty in securing suitable sediment is experienced. If the sputum is very thick and tenacious the addition of water or alcohol to the homogenized mixture may be tried.

Sedimentation is rendered more certain by the use of the *centrifuge*. Thilenius (12) recommends the employment of a high power machine giving 5,000 revolutions a minute. Such apparatus is rarely available even in laboratories and satisfactory results seem to be obtained with ordinary centrifuges, and, to a less extent, even in the ordinary sedimentation glasses. In the latter case weak antiformin solutions, 3 to 5 per cent, are used (Meyer) and allowed to act for several days. The mixtures being of low specific gravity compared with those containing a high percentage of antiformin the sediment is more readily obtained. Hüne (5) suggests the addition of formalin to the sediment after the first centrifuging in order to lessen the danger of infection when frequent tests are made. The centrifuge tubes and cover slips should be cleansed before use with nitric acid or a mixture of potassium bichromate and strong sulphuric acid to destroy any tubercle bacilli which may accidentally be present.

Washing the sediment: The sediment especially when strong solutions of antiformin are used does not attach itself readily to a slide and most workers recommend previous washing. This is accomplished by pouring off the supernatant clear fluid after the first centrifuging and then adding normal salt solution or water and recentrifuging. This process is repeated two or three times by some. When cultures are to be made the washing is used to remove the strong antiformin solution, before

the inoculation. Brown and Smith (2) used distilled water for the purpose. Uhlenhuth (1), Meyer (7) and Paterson (4) use normal salt solution. This washing of the sediment, as Lagrèze (8) points out, cannot readily be carried out when the sediment is obtained by gravity in conical glasses.

Removal of the sediment to the slide: Meyer (7) leaves a few drops of the solution used for washing in the bottom of the centrifuge tube, mixes it with the sediment and pours the suspension off on a slide. Goerres criticises this on the ground that considerable of the material dries and remains on the wall of the centrifuge tube. He uses a centrifuge tube open at the bottom which can be closed with a cork, and removes the sediment from below. Ordinarily the sediment should be removed by the platinum loop or a glass capillary pipette.

Attaching the sediment to the slide: Paterson (4) claims that if the sediment has been thoroughly washed it will adhere to the slide perfectly. Others (Goerres) find that in certain cases, in spite of previous washing, the sediment is with difficulty fixed to the slide, is easily detached or dissolved during the process of staining, and that fresh sputum from the same specimen offers the best means of securing it firmly. Seeman uses also an albumin mixture containing one part of egg albumen in ten parts of distilled water and containing 1 per cent of formaldehyde. Hüne used a 5 per cent solution of egg albumen containing 1 per cent of formalin. Goerres considers the 10 per cent solution albumen solution too strong as it interferes with good contrast staining. Lagrèze uses a 0.2 to 0.3 per cent sublimate solution, acting for two or three minutes, as a fixative. The sediment may also be attached to the slide by blood-serum or diphtheria antitoxin.

Staining of the preparation is accomplished by the ordinary methods, usually by the employment of carbol-fuchsin brought to the boiling point, decolorization with an acid solution, and counterstaining with methylene blue. The exact modifications used by the various authors can be learned by reference to their reports.

Summary and resume of the method: Either the commercial or home-made antiformin may be used.

First: Prepare a mixture of the sputum with antiformin and water so that the strength of the mixture in antiformin shall be from 15 to 25 per cent, varying with the character of the sputum.

Second: Thoroughly shake the mixture and allow it to stand,

meanwhile shaking occasionally, for 24 hours at room temperature, or three to four hours in the incubator, until it is completely homogenized.

Third: If the mixture is of very high specific gravity, add an equal volume of water or 95 per cent alcohol.

Fourth: Centrifuge, preferably in an electric centrifuge, for one quarter to one half hour.

Fifth: Pour off the supernatant fluid and replace with water or normal salt solution, stirring up or shaking up the sediment, centrifuge again. Repeat a second time if desired.

Sixth: Remove the sediment with a fine glass pipette or the platinum loop.

Seventh: Attach the sediment to a slide with the original sputum, or if necessary with an albumin or serum solution, previously rubbed in a very thin layer on the slide.

Eighth: Stain by the ordinary method.

In case a centrifuge is not available, use a 3 to 5 per cent solution of antiformin, acting for two to three days in a sediment glass.

Comparison of the antiformin method with the ordinary method of direct preparation from fresh sputum: None of the workers have reported that tubercle bacilli were not found by the antiformin method in any case where they could be detected by direct staining. Nearly all of them speak of a very marked increase in the number of bacilli found in such cases. In cases negative by the ordinary direct staining methods, better results have been reported with the use of antiformin as follows:

	Usual method negative.	Antiformin positive
Meyer	99	14
Goerres	161	28
Rau	18	5
Lagreze	50	10
Paterson	23	5
	<hr/> 351	<hr/> 62

In certain cases Meyer (7) examined by this method the total amount of sputum expectorated in 24 hours, and states that it is not an unusual occurrence for a patient to have not more than two or three bacilli a day in his sputum. Koslow (10) claims that even single bacilli can be detected by this method.

The use of antiformin for other purposes such as the detection of tubercle bacilli in urine, feces, pus, glands and organs has been successful but does not come within the scope of this article.

Criticism of the Method: Sachs-Mücke (13) does not consider the antiformin method ideal for sputum although he says he has had good results with it. In a series of parallel tests with his own hydrogen-peroxide method and the antiformin method he twice obtained a positive result with the former when the latter did not show the presence of tubercle bacilli. He thinks the staining properties of the tubercle bacilli may be injured by strong antiformin solution such as fifty per cent, particularly if they are only slightly acid fast. Hydrogen-peroxide on the other hand he says has long been considered one of the best agents for decolorization in methods of staining tubercle bacilli.

Sachs-Mücke Method: (13) In this method sputum is mixed with hydrogen-peroxide which decomposes in the presence of organic matter such as sputum into water and oxygen. During the process the sputum is homogenized and the tubercle bacilli are found in the sediment and according to Sorgo in the foam also. Goerres (6) points out that this is a disadvantage as the bacilli are found in two places. The violent effervescence is likely to spread infectious material about, and is not entirely overcome by the addition of alcohol. Moreover, in many cases, the addition of large amounts of hydrogen-peroxide and alcohol are necessary before homogenization is secured.

Though the results obtained by the use of antiformin are apparently much better than those secured by any of the older procedures, several other new methods have lately been devised which have given good results. These will be discussed in a subsequent paper.

REFERENCES.

- 1.—Uhlenhuth's Antiformin, ein bakterienauflösendes Desinfektionsmittel, *Centralblatt für Bakteriologie*, etc. Beilage zur Abt. 1 Band XLII, 1908, 62. UHLENHUTH UND XYLANDER, Antiformin ein bakterien auflösendes Desinfektionsmittel *Berliner klinische Wochenschrift* 1908, XLV, 1346. UHLENHUTH, Neuere Methode der Sputumuntersuchung, 1909, V, 1296.
- 2.—BROWN AND SMITH. The Cultivation of Tubercle Bacilli directly from Sputum by the use of Antiformin, *Journal of Medical Research*, 1910, XXII, 517.
- 3.—GOODMAN. A Method of Examining Sputa for Tubercle Bacilli, *New York Medical Journal*, 1910, XCII, 27.
- 4.—PATERSON. A Report on the Use of Antiformin for the Detection of Tubercle Bacilli in Sputum, etc., *The Journal of Medical Research*, 1910, XXII, 315.
- 5.—HUNE. Die Tuberkel-bazillen Anreicherung mittels, Antiformin, *Deutsche Medizinische Wochenschrift*, 1909, XXXV, 1791.

6.—GOERRES. Ueber den Nachweis der Tuberkelbazillen im Sputum mittels der Antiforminmethode *Zeitschrift für klinische Medizin*, 1910, LXX, 86.

7.—MEYER. Zum Nachweis von Tuberkel bazillen in Sputum mittels Antiformin. *Tuberculosis*, (Berlin), 1909, VIII.

8.—LAGREZE. Zur Antiforminmethode der Sputumuntersuchung, *Deutsche Medizinische Wochenschrift*, 1909, XXXVI, 76.

9.—SEEMAN. Die Brauchbarkeit des Antiformin zum Nachweis von Tuberkelbazillen, *Berliner klinische Wochenschrift*, 1909, No. 14.

10.—KOSLOW. Aether-acetonische Kombination der Antiforminmethode, *Berliner klinische Wochenschrift*, 1910, XLVII, 1181.

11.—SCHULTE. Methode und Technik der neueren Verfahren zum Nachweis von Tuberkelbazillen in Sputum mit besonderer Berücksichtigung des Uhlenhuthschen Antiforminverfahrens, *Medizinische Klinik*, 1910, No. 5, 172.

12.—THILENIUS. Ueber den Nachweis von Mikroparasiten in Sekreten und Exkreten mittels der Antiformin methode, *Berliner klinische Wochenschrift*, 1909, No. 25.

13.—SACHS-MÜKE. Zur Antiforminmethode der Sputumuntersuchung. *Deutsche Medizinische Wochenschrift*, 1910, XXXVI, 320.

Ein Sedimentierungsverfahren des Auswurfs mit Wasserstoffsperoxyd. *Münchener Medizinische Wochenschrift*, 1906, p. 1660.

A. T. LAIRD.

Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF HEALTH, ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, AUGUST, 1910.

Deaths.

Consumption.	17
Typhoid fever	2
Scarlet fever	1
Measles.	0
Whooping-cough.	3
Diphtheria and croup.	1
Grippe.	0
Diarrheal diseases	11
Pneumonia.	4
Broncho-pneumonia.	1
Bright's disease	4
Apoplexy.	6
Cancer.	6
Accidents and violence.	8
Deaths over 70 years.	11
Deaths under one year.	26
<hr/>	
Total deaths	111
Death rate	13.06
Death rate less non-residents.	11.18

Deaths in Institutions.

	Resident	Non-resident
Albany Hospital	9	5
County House	1	3
Homeopathic Hospital	6	1
Hospital for Incurables.....	1	0
Public places	1	1
St. Margaret's House.....	1	2
St. Vincent's Male Orphan Asylum.....	1	0
St. Peter's Hospital.....	4	1
Austin Maternity Hospital.....	1	0
Albany Hospital, Tuberculosis Pavilion.....	0	3
Totals.	25	16
Births.		126
Still births		11

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

In the Bureau of Plumbing, Drainage and Ventilation there were two hundred ten inspections made of which ninety-five were of old houses and one hundred fifteen of new houses. There were sixty-one iron drains laid, fifty-six connections to street sewers, fifty-six tile drains, fifty cess-pools, ninety-four wash basins, one hundred two sinks, eighty-seven bath tubs, eighty-six washtrays, one hundred forty-one tank closets, three slop hoppers, three shower baths. There were one hundred seventy-six permits issued of which one hundred twenty-six were for plumbing and fifty for building purposes. Forty-two plans were submitted of which thirteen were for old buildings and twenty-nine for new buildings. There were forty-one water tests. Twenty-eight houses were examined and fifty-three were re-examined. Fourteen complaints were found to be valid and fourteen without cause.

BUREAU OF CONTAGIOUS DISEASE.

Cases Reported.

Typhoid fever	4
Scarlet fever	6
Diphtheria and croup.....	7
Chickenpox.	0
Measles.	1
Whooping-cough.	0
Consumption.	46
Total.	64

Contagious Disease in Relation to Public Schools.

None Reported.

Number of days quarantine for diphtheria:

Longest..... 21 Shortest..... 15 Average..... $18\frac{1}{2}$

Number of days quarantine for scarlet fever:

Longest..... 37 Shortest..... 21 Average..... $30\frac{1}{3}$

Fumigations:

Houses..... 27 Rooms..... 78

Cases of diphtheria reported. 7

Cases of diphtheria in which antitoxin was used. 7

Cases of diphtheria in which antitoxin was not used 0

Deaths after use of antitoxin..... 1

BENDER LABORATORY REPORT ON TUBERCULOSIS.

Positive. 19

Negative. 12

Failed. 3

Total. 34

TUBERCULOSIS.

Living cases on record August, 1910..... 355

Reported during August, 1910:

By telephone. 0

By Bender. 1

By card. 13

14

Dead cases reported by certificate..... 7

21

376

Dead cases previously reported 11

Dead cases not previously reported..... 7

Duplicates. 1

Recovered. 0

Removed. 3

Unaccounted for 36

58

Living cases on record September 1, 1910..... 318

Total tuberculosis death certificates filed August, 1910..... 19

BUREAU OF PATHOLOGY.

Bender Laboratory Report on Diphtheria.

Initial positive.	5
Initial negative.	22
Release positive.	4
Release negative.	31
Failed.	0
<hr/>	
Total.	62
Test of sputum for tuberculosis:	
Initial positive.	20
Initial negative.	15

MISCELLANEOUS.

Mercantile certificates issued to children.....	11
Factory certificates issued to children.....	17
Children's birth records on file.....	28
Number of written complaints of nuisances.....	44
Privy vaults	3
Plumbing.	16
Other miscellaneous complaints.....	25
Total number of dead animals removed.....	1,333
Cases assigned to health physicians.....	57
Number of calls made.....	194

Medical News

Edited by Arthur J. Bedell, M. D.

ALBANY GUILD FOR THE CARE OF THE SICK—DEPARTMENT OF VISITING NURSING—STATISTICS FOR AUGUST, 1910. Number of new cases, 139; *classified as follows*: Dispensary patients receiving home care, 15; district cases reported by health physicians, 12; charity cases reported by other physicians, 48; moderate income patients, 64; old cases still under treatment, 18; total number of cases under nursing care during month, 320. *Classification of diseases for the new cases*: Medical, 49; surgical, 6; Obstetrical under professional care, mothers, 42; infants, 35; eye and ear, 2; skin, 5; contagious diseases in the medical list, 3; removed to hospital, 4; deaths, 4.

Visits of Guild Nurses (all departments): Number of visits with nursing treatment, 1,516; for professional supervisions of convalescents, 324; total number of visits, 1,840. Cases reported to the Guild by four health physicians, and forty-three other physicians. Graduate nurses six, and pupil nurses ten on duty.

Dispensary Report.—Number of clinics held, 95; number of new patients, 118; number of old patients, 410; total number of patients, 528. *Classification of clinics:* Surgical, 15; nose and throat, 10; eye and ear, 13; lung, 14; nervous, 2; skin and genito-urinary, 8; stomach, 3; medical, 12; children, 12; gynecological, 9.

THE TWELFTH ANNUAL MEETING OF THE ALBANY MEDICAL COLLEGE, ALUMNI ASSOCIATION OF NEW ENGLAND.—The Twelfth Annual Meeting of the Albany Medical College Alumni Association of New England, will be held at Springfield, Mass., October 20, 1910. It is planned to make this meeting of the best ever held by the Association. All graduates practicing in New England are eligible to membership in the Association and are cordially invited to attend the meeting. Delegates are expected from the Association of New York and Central New York and also from Albany. An atmosphere of general good fellowship always prevails at these meetings and this year an added interest may be expected on account of the many plans for the future of the College which are already under way. The officers of the New England Association are: Walter G. Murphy ('90), President, Hartford, Conn.; E. C. Collins ('80), Secretary, Springfield, Mass.; Committee of Arrangements: Dr. W. W. Broga ('87), Springfield, Mass.; Dr. Archibald Douglass ('03), Westfield, Mass.; Dr. A. E. Abrams ('81), Hartford Conn. The officers and committees are working hard to make the meeting a success, and it may be confidently asserted that the literary program and dinner will be well worth attending.

THE COLLEGE OPENING.—The Introductory Lecture of the Eightieth Session was delivered by Professor Samuel R. Morrow, M. D., in the Amphitheatre of the College, on Tuesday, September 20, 1910, at 12 m.

SCIENTIFIC PROGRAM OF THE FOURTH ANNUAL MEETING OF THE THIRD DISTRICT BRANCH OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK. Tuesday, October 4, 1910, Morning Session at the Albany Hospital. Medical and Surgical Diagnosis: 10-11 A. M. Presentation of Medical Cases in the Dispensary: Samuel B. Ward, Joseph D. Craig. 11-12 M. Simultaneous Demonstration of Methods of Clinical Diagnosis in Small Rooms of Dispensary: "Diseases of the Blood," C. B. Hawn, M. Douglas, H. P. Sawyer; "Diseases of the Heart," J. F. Rooney, C. K. Winne, Jr., F. C. Conway; "Infectious Diseases," H. S. Bernstein, Ellis Kellert; "Diseases of the Nervous System," L. Archambault, N. K. Fromm; "Diseases with Urinary Findings," V. C. Myers, W. A. Bing, J. P. O'Brien; "Diseases of the Digestive System," L. H. Neuman, J. Meyers, T. F. Doescher. 10-11 A. M. Presentation of Surgical Cases in the Amphitheatre: "Injuries to the Intestinal Tract," Edgar Vander Veer; "Treatment of Ununited Fractures," A. W. Elting; "Open Treatment of Wounds," W. G. Macdonald; "Surgery of the Gall Bladder," A. Vander Veer. 11-12 M. In the Private Operating Rooms: "The Diagnosis and Treatment of Flat Foot," John H. Gutmann; "Local Anaesthesia," Joseph A. Cox; "The Diagnosis and Treatment of Surgical Kidney Lesions," James N. Vander Veer; "Skin Grafting," George G. Lempe; "Treatment

of Chronic Sinuses with Beck's Bismuth Paste," Alvah H. Traver; "Gynecological Methods," John A. Sampson; "Diagnosis and Treatment of Lesions of the Thyroid Gland," George E. Beilby. 12-1 P. M. Visit by automobile to the Albany Hospital Sanatorium for Tuberculosis. "Demonstration of Unusual Cases and of Diagnostic Tests," Howard Van Rensselaer, Erastus Corning. 1 P. M. Meeting of the delegates at the Albany Hospital. 1.30 P. M. Luncheon at the Albany Hospital. Afternoon Session, 3 P. M. at the Historical and Art Society Rooms. "Limitations of Laboratory Diagnosis, Thomas Ordway, Albany; President's Address, "The Diagnostic House," Andrew MacFarlane, Albany; "Address," Simon Flexner, New York City. Symposium on Modern Therapeutics: (a) "Medicinal Therapy," Spencer L. Dawes, Albany; (b) "General Vaccine Therapy," Harold P. Sawyer, Troy; (c) "Vaccine Therapy in Tuberculosis," Lawrason Brown, Trudeau; "The Importance of an Early Diagnosis in Abnormal Pelvic Conditions," Mary Gage-Day, Kingston; Exhibition of X-ray Plates, A. F. Holding, W. H. Happel. Evening Session, 8 P. M. at the Historical and Art Society Rooms, Short Travel Talks. "Italy," J. N. Vander Veer; "Spain and Portugal," H. L. K. Shaw; "Hunting in the West," A. W. Elting; "Japan," A. MacFarlane; "Switzerland," W. G. Macdonald; "Alaska," S. B. Ward; "Mexico," A. Vander Veer. 10 P. M. Smoker at the University Club. Reception to the President-elect.

NEW YORK STATE CONFERENCE OF CHARITIES AND CORRECTION.—The Eleventh New York State Conference of Charities and Correction will be held in the city of Rochester, on Tuesday, Wednesday and Thursday, November 15, 16, and 17, 1910.

AMERICAN ASSOCIATION OF CLINICAL RESEARCH.—The second annual meeting of the American Association of Clinical Research was held in Boston on September 28 and 29, 1910. Some valuable contributions on Researches in Medicine and Surgery, in Prophylactic and Anaphylactic Medicine, in Mental Medicine, in Radiotherapeutics, in Metabolism, etc., were presented.

THE TWENTIETH ANNUAL MEETING OF THE AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION was held at Saratoga Springs, September 13 to 15. An interesting program with papers under the following general headings was presented: Direct or Continuous Currents, including Electrolysis, Electro-Chemical Surgery Ionization, and all Apparatus connected therewith; Induced Currents and Apparatus; Static Currents and Apparatus; Phototherapy and Apparatus; Radiography, Radiotherapy and Apparatus; Mechanical Vibration, Therapy, Exercise Therapy and Apparatus; Hydrotherapy, Thermotherapy and Apparatus; Dietetics; Standard Therapeutic Measures; Research; Arrangements; Exhibits.

CHANGES IN THE PERSONNEL OF THE MEDICAL FACULTY AT THE UNIVERSITY OF PENNSYLVANIA.—The trustees of the University of Pennsylvania have announced recently certain changes in the personnel of the

teaching staff to go into effect at the beginning of the next academic session, September first, 1910.

To fill the Chair of Theory and Practice of Medicine made vacant by the resignation of Dr. James Tyson, Dr. David L. Edsall has been transferred from the Chair of Pharmacology and Therapeutics and the vacancy in the latter will be filled by the appointment of Dr. A. N. Richards, now Professor of Pharmacology in the Medical School of the Northwestern University.

One hundred thousand dollars has been received for the endowment of a Chair of Physiological Chemistry and Dr. Alonzo Englebert Taylor of the University of California will be its first occupant.

Dr. Richard M. Pearce of the University and Bellevue Hospital Medical College of New York, has been appointed Professor of Pathology. Dr. Pearce will also direct the work of the department of Research Medicine recently established by an endowment of \$200,000.

Dr. Allen J. Smith, the present Dean of the Medical School will be the occupant of the new Chair of Comparative Pathology and be at the head of the newly instituted courses in Tropical Medicine.

Dr. Paul Lewis, who will have charge of the Laboratory of the Phipps Institute for the Study, Prevention and Treatment of Tuberculosis, now an integral part of the university, has been elected Assistant Professor of Pathology.

NEW EDITION OF GRAY'S ANATOMY.—A man may be a great anatomist or a great teacher, but when one man combines these two faculties his single mind, by its complete coöperation, can produce a teaching book in which matter and method blend into a result obtainable in no other way. This double-sided genius was possessed by Henry Gray, and until nature grants to one individual like endowments, his work will stand. Owing to the incessant activity in all branches of medicine, books in any of its departments are almost invariably short-lived. The single exception to this rule is *Gray's Anatomy*. In the fifty years since the author's early death it has grown beyond even the leadership in its own subject, and has become the foremost medical book in all English literature. As English is now the world-language, this is equivalent to primacy in the medical literature of the world.

Eighteen editions have been demanded in the course of its half century, and they have enlisted many of the ablest anatomists of this period. The principles on which Gray built his book have been followed, and it is not too much to say that during two generations it has guided the teaching of its subject in America as well as England. An army of students has conned its pages, and has carried it away into practice, for it is equally valuable to the physician and surgeon for reference on underlying points. In fact, the editor has made the applications of anatomy, in medicine as well as surgery, a special feature.

Of all the editions, this new one represents the most thorough revision. Every line has been scanned for possible improvement. Anything in the nature of a possible obscurity has been clarified, passages have been rewritten, and new developments have been incorporated. Rearrangement

has eliminated many duplications, and this, together with condensation in style, has rendered it possible to present more information in one hundred pages less space, to the reader's obvious advantage. Professor Spitzka, the editor, is one of the foremost anatomists in the world, and he joins to this the apt qualification of being himself an artist as well, so that the drawings from his own hand present his knowledge directly to the mind of the reader. Another of Gray's fundamental improvements, in which his book has always been unique, was the engraving of the names of the parts directly on them, so that the student learned at once not only their nomenclature, but also their position, extent and relations, the four cardinal points. The advantage of this graphic method over the elsewhere customary lines and reference letters is obvious. Gray's book was also the first to contain illustrations in colors. In this new edition, besides all the improvements in the text, the splendid series of characteristic illustrations has been equally revised, many cuts being replaced and more added, and the use of colors is more lavish than ever. No student in any profession, or in any branch of medicine, has offered to him any instrument of instruction comparable to *Gray's Anatomy*. It suffices to say that the new edition will excel any of its predecessors.

POLIOMYELITIS.—At the recent meeting of the Congress of American Physicians and Surgeons, held in Washington in May, 1910, a joint session of the American Orthopedic and American Pediatric Societies was held and the subject of epidemic poliomyelitis was discussed. The following resolution was adopted:

"It having been shown by recent epidemics and investigations connected with the same that epidemic infantile spinal paralysis is an infectious communicable disease that has a mortality of from five to twenty per cent, and that seventy-five per cent or more of the patients surviving are permanently crippled, state boards of health and other health authorities are urged to adopt the same or similar measures as are already adopted and enforced in Massachusetts for ascertaining the modes of origin and manner of distribution of the disease with a view of controlling and limiting the spread of so serious an affection."

A committee with Dr. Robert W. Lovett, president, Boston, Mass., Dr. Irving M. Snow, secretary, Buffalo, N. Y., was appointed to urge the various state and municipal health authorities to take up the work of investigation of the various foci of epidemic poliomyelitis, to study its epidemiology and to instruct the public that the disease is at least mildly communicable.

AMERICAN PUBLIC HEALTH ASSOCIATION TO MEET IN MILWAUKEE.—The American Public Health Association will hold its thirty-eighth annual meeting in Milwaukee, Wisconsin, September 5th to 9th next. Representatives from many of the national organizations, working in the interest of the public health have been invited to be present and to discuss methods for the correlation of the work of such organizations, and for coöperation with a view to increasing efficiency and economy. Sanitary engineering will occupy a conspicuous place on the program.

This association is the oldest national sanitary organization in the United States. Its members extend over the United States, the Dominion of Canada, Mexico and Cuba. Information concerning it may be obtained by addressing Dr. Wm. C. Woodwars, secretary, Washington, D. C.

THE HENRY PHIPPS INSTITUTE FOR THE STUDY, PREVENTION AND TREATMENT OF TUBERCULOSIS.—Mr. Henry Phipps of New York has selected the University of Pennsylvania to carry on the work of the Phipps Institute and has ready acquired ground in Philadelphia on which will be erected a hospital for this purpose. The extent of the benefaction exceeds \$5,000,000.

The work will be divided into three general departments, each of which will be presided over by a director. For the directorship of the laboratory, Dr. Paul Lewis now of the Rockefeller Institute has been selected. For directorship for the sociological department, Mr. Alexander M. Wilson, of the Boston Association for the Relief and Control of Tuberculosis. Dr. H. R. M. Landis has accepted the appointment as the director of the clinical department.

MEDICAL LIBRARY FOR SCHENECTADY.—A medical library consisting of 1,000 volumes has been loaned by the State Medical Association library at Brooklyn, to the Medical Association Society at Schenectady. It will be located in the public library building.

THE METROPOLITAN LIFE INSURANCE COMPANY has recently published a comprehensive booklet of twenty-four pages profusely illustrated telling patients how to live when afflicted with tuberculosis. It is thoroughly recommended to all physicians.

CHARLOTTE SANITARIUM.—The first annual report of the Charlotte Sanitarium, Charlotte, N. C., has given in complete detail the number of cases treated and the results. Eight hundred and thirty-nine patients were under observation during the year.

SARATOGA CURE AND INFIRMARY.—On Wednesday, May 25, the cornerstone of this charity hospital and dispensary was laid with appropriate ceremonies at Saratoga Springs, N. Y.

YALE MEDICAL SCHOOL.—Dr. Herbert E. Smith retired from his position as Dean of the Yale Medical School on May 28th and Dr. George Blumer, formerly Director of the Bender Laboratory, will be elected to succeed him.

DR. STOVER, PRESIDENT NEW YORK STATE SOCIETY.—By the death of Dr. Charles Jewett August 6, Dr. Charles Stover, vice-president, succeeds to the presidency of the Medical Society of the State of New York. He is a prominent practitioner of Amsterdam and physician to the City and St. Mary's Hospital.

PERSONALS.—Dr. EDDY S. HASWELL (A. M. C. '09), after a year as resident physician at St. Peter's Hospital, has started practice at 327 Hudson avenue, Albany, N. Y.

—Dr. FRED Wm. MCSORLEY (A. M. C. '09), has opened an office in Cambridge, N. Y., after a year as resident physician at the Albany Hospital.

—Dr. GEORGE W. DUFFY (A. M. C. '10), has given up his position as resident physician of the Albany Hospital and has started practice in Nassau, N. Y.

—Dr. PATRICK J. HIRST (A. M. C. '10), has started practice in Ballston, N. Y.

—Dr. WALTER E. LUNDBLAD (A. M. C. '10), has resigned from his position as one of the assistants at the Bender Laboratory, to accept charge of the Pathological Laboratory at Corning, N. Y.

Dr. CLINTON B. HERRICK (A. M. C. '80), of Troy, N. Y., was elected President of The New York State Society of the War with Great Britain, at its annual meeting held in Troy, September 13, 1910.

—Dr. GEORGE T. MOSTON (A. M. C. '90), has given up practice, and removed from Albany, N. Y.

—Dr. CHARLES E. DAVIS (A. M. C. '91), of Albany, N. Y., has returned from Honolulu, where he spent the last few months.

—Dr. CHRISTIAN G. HACKER (A. M. C. '99), has returned from his trip through the west.

—Dr. JAMES P. FABER (A. M. C. '05), is actively engaged in the study of diseases of children, in Vienna, Austria.

—Dr. HARRY RULISON (A. M. C. '05), is now in Berlin, Germany, doing special work in children's diseases.

—Dr. SAMUEL O. KEMP, JR. (A. M. C. '06), has purchased the practice of Dr. George T. Moston, and is now located at 611 Central avenue.

—Dr. LOUIS H. GAUS (A. M. C. '07), has resigned from his position as Director of the Pathological Laboratory, at Corning, N. Y., and has sailed for Europe for further study.

—Dr. JEROME MEYERS (A. M. C. '07), has returned from a prolonged stay in Europe, and has opened an office at 238 Hamilton street, Albany, N. Y.

—Dr. JOSEPH DAVIS (A. M. C. '08), who has been in the Adirondacks for the past year, is greatly improved in general health, and will probably return to practice in a few months.

—Dr. JOSEPH E. WINBIEL (A. M. C. '08), has returned from Europe and opened an office at 76 E. Main street, Amsterdam, N. Y.

—Dr. LEWIS W. BURDICK (A. M. C. '09), after serving at the Samaritan Hospital, Troy, N. Y., is now assistant resident physician at the New York Lying-In Hospital.

—Dr. HARRY H. DRAKE (A. M. C. '09), of New Paltz, N. Y., has recovered from a severe attack of typhoid fever, and will leave the Albany Hospital in the very near future.

—Dr. EDWARD DANIEL DONOHUE (A. M. C. '09), after a year as resident physician in the Albany Hospital, has started practice in Mechanicville, N. Y.

MARRIED.—Dr. FRED N. BIBBY (A. M. C. '06), and Mrs. Myrtle MacFarland were married at St. Paul's Church, Albany, N. Y., on September 21, 1910. Dr. Bibby is Dr. G. Emory Lochner's assistant.

—Dr. ALBERT EMERSON PITTS (A. M. C. '09), and Miss Caroline L. Becker of East Schodack, N. Y., were married Wednesday, September 14, 1910. Dr. and Mrs. Pitts will reside at 255 Quail street, Albany, N. Y.

—Dr. JOHN A. BENDER (A. M. C. '99), and Miss Grace May Harvey, of Herkimer, N. Y., were married on August 22, 1910, at the First M. E. Church of Herkimer, N. Y. Dr. and Mrs. Bender will reside in Utica.

DIED.—Dr. RANDALL WILLIAMS (A. M. C. '48), one of the oldest residents of Le Roy, N. Y., where he enjoyed an extensive practice, died at his home on Church street, Friday, September 16, 1910.

—Dr. ELY VAN DE WARKER (A. M. C. '63), chairman of the section on obstetrics and diseases of women of the American Medical Association in 1887; formerly assistant surgeon and surgeon of the One Hundred and Sixty-second New York Volunteer Infantry; surgeon-in-chief of the Third Brigade, First Division, Nineteenth Army Corps; medical director of the First Provisional Division of Georgia, and chief medical officer of the district of the Ocmulgee during the Civil War; formerly president of the Onondaga County Medical Society, Central New York Medical Society, and Syracuse Academy of Medicine; a member of the American Gynecological Association; surgeon to the Central New York Hospital; senior surgeon to the Woman's and Children's Hospital, and consulting surgeon to St. Anne's Maternity Hospital; formerly school commissioner; died at his home in Syracuse, September 6, aged 68.

In Memoriam

RANDALL WILLIAMS, M. D.

Dr. Randall Williams, an alumnus of the Albany Medical College of the Class of 1848, died at his home in LeRoy, N. Y., Friday, June 10, 1910, after a short illness. He was one of the oldest residents of Genesee county and was highly respected.

Dr. Williams was born on September 1, 1824, at Allen's Hill, Richmond, Ontario county, N. Y., and his ancestors were the Williams family who settled in the state of Massachusetts in the early days of this country. He studied medicine at Albany and after his graduation went to Western New York. After practicing at Byron Center a short time he established himself in LeRoy. Soon after he married Miss Anna Garfield, of Troy, who at that time was a teacher at Ingham University. Mrs. Williams died on November 24, 1901. One son, Seward Williams, of Orange, N. J., survives his father. Dr. Williams was one of the oldest members of the Presbyterian church where he was always a regular attendant until prevented by illness. He took great interest in

all of its branches of work, especially in the Sunday school. Mrs. Williams was one of the charter members of the Maternal Association and Dr. Williams took a deep interest in the organization. He frequently gave addresses before the meetings, showing his deep interest in the youth of the town.

For an appreciation of the character of Dr. Williams the following comment of the *Rochester Post-Express* may be read:

Dr. Randall Williams, who died in LeRoy yesterday at the age of 86, was the oldest physician in Genesee county; for half a century he had practiced medicine in LeRoy. In early times he traveled about on foot or on horseback; then came the regular "doctor's buggy," usually the terror of boys and girls, but the telephone and automobile were never regarded as necessary adjuncts. Was there not a kindliness, a strong personal friendship for every patient, a direct personal interest in the affairs of every family they visited, that characterized these old country doctors which is missing in these days? The saddle-bag doctors were more than mere practitioners of medicine; they were often skilled in the law and in business; their advice was often asked in affairs of importance; they drew wills now and then, aided in the transfer of real estate, christened the babies and knew something about the rotation of crops and were not averse to talking politics along about election time. Usually they were religious men, and exerted a powerful influence for good, though there were always some exceptions; the swearing, tobacco-chewing doctor was seen now and then. Dr. Williams was an unusually fine type of the old-fashioned doctor: there are thousands of men and women in Western New York who knew and loved him; his life was long and useful, and full of kindness.

ELY VAN DE WARKER, M. D.

Dr. Ely Van de Warker of Syracuse, N. Y., died September 5, 1910. For many years he was one of the foremost physicians of that city. Early in his career he turned his attention to the subject of gynecology, of which he was truly one of the pioneers. Although a new and untried field he, in conjunction with others, Marion Sims, Van der Veer and Lusk brought renown to American surgery.

As an investigator and student of the special technique he soon won prominence. His writings have been varied and prolific, forceful and decisive. It has been commonly known that Syracuse never possessed a better writer on medical topics in general. As a personal equation he had that command of the English language which made his discussions apropos as delightful as his written page. Foremost among his treatises stands one published in the *Gynecological Transactions* of 1883, namely, "The Mechanical Treatment of Versions and Flexions of the Uterus: a Theoretical and Practical Study of the Pessary;" also his advocacy of the use of the "Perchloride of Iron and Zinc in Inoperable Cancer of the Cervix Uteri" gained wide attention and usage.

As an operator there have been few his peers. His plastic work at the

pelvic outlet gave him a reputation much to be envied. As recorded he had performed over two thousand laparotomies with relatively no mortality.

He was the founder of the Syracuse Hospital for Women and Children in which institution he served as surgeon-in-chief for more than twenty years. His large private sanitarium in addition netted him much glory as a successful gynecologist. There have been but few families throughout central New York that have not had some member upon whom he had not operated either for a minor or major cause.

In later years Dr. Van de Warker turned his pen to other than medical topics. He published a book which created a decided sensation, "Women's Unfitness for Higher Co-education." He investigated the waterways of the Iroquois Indians in Central New York and wrote upon the "Abandoned Canals" in the same region.

Dr. Van de Warker was born in West Troy, N. Y., November 27, 1841. He was prepared for college at a private school for boys conducted by Mr. Arthur, the father of Chester A. Arthur. He attended the Troy Polytechnic and later graduated in medicine at the Albany Medical College. Directly upon graduation he joined the one hundred and sixty-second regiment, New York Volunteers, and served as surgeon until the close of the war, attaining rank of major. In 1865 he began to practice in Troy, N. Y. In the same year he married Louise Gardner of Hancock, Mass., whose death occurred the following year. About 1870 he moved to Syracuse and in 1872 he married Helen A. Adams of that city whose death occurred in 1907. In 1908 Dr. Van de Warker retired from active work due to failing health, his illness lasting two years.

At the time of his death he was an Honorary Member of the Syracuse Academy of Medicine, the Onondaga County Medical Society, the New York State Medical Society and the American Gynecological Society. Surviving are one daughter, Mrs. A. M. Wose, and three grandchildren, George Ely Barker, Miss Helen and Miss Beatrice Wose.

A. M. WOSE.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

The Principles of Pathology. By J. GEORGE ADAMI, M. A., M. D., LL. D., F. R. S., Professor of Pathology in McGill University and Pathologist to the Royal Victoria Hospital, Montreal, and ALBERT G. NICHOLLS, M. A., M. D., D. Sc., F. R. S. (Can.), Assistant Professor of Pathology and Lecturer in Clinical Medicine in McGill University. Volume II. Systemic Pathology. 310 engravings and 15 plates, 1082 pages. Lea & Febiger, Philadelphia and New York, 1909.

The second volume of the *Principles of Pathology* by Adami and Nicholls deals with systemic pathology, the results of disease as it affects the different systems of organs.

It is a book of ten hundred and eighty-two pages, somewhat larger than volume I. It is bulky and with the first volume is too expensive a text-book for most students, and as a book of reference for clinicians or special laboratory workers, it lacks the detail desired. As compared with volume I this book is on the whole disappointing.

The general arrangement is similar to that of most works on special pathology. Disturbances of function, however, are emphasized forming, as the writers say, a "link between the labors of the pathologist and the clinician."

The pathology of the blood and organs of circulation is described in this volume on systemic pathology and not under general pathology as is often the case.

Occasionally subjects are referred to in the text before they have been defined or described; this may be confusing to the beginner.

Two hundred and thirty-six pages, or one-fifth of the book, is devoted to the cardio-vascular system.

The illustrations, on the whole, are poor; many of the photomicrographs have apparently lost so much in reproduction that they are of little value.

The references to the literature are conveniently placed as footnotes, but there is no attempt at a complete bibliography.

The book will be I think of more value to the clinician than to the student or special laboratory worker.

The problem of correlating functional pathology, the causes and effects of abnormal physiology and chemistry, with anatomical changes, gross and histological, is a very difficult one, and the writers deserve much credit. The work should serve as a stimulus for writers of subsequent books on pathology and help to unify laboratory and clinical subjects.

T. O.

The Diagnostics of Internal Medicine. A Clinical Treatise upon the Recognized Principles of Medical Diagnosis, Prepared for the Use of Students and Practitioners of Medicine. By GLENTWORTH REEVE BUTLER, M. D., Sc. D., LL. D., Physician-in-Chief, Methodist Episcopal Hospital; Attending Physician to the Brooklyn Hospital; Consulting Physician to the Bushwick Central Hospital, and to the Coney Island Hospital; formerly Associate Physician, Departments of Diseases of the Chest and Diseases of Children, St. Mary's Hospital, Brooklyn, N. Y.; Fellow of the New York Academy of Medicine; Member of the Medical Society of the County of Kings; Fellow of the Society of Science, Letters, and Art (London). etc., with five colored plates and two hundred and seventy-two illustrations and charts in the text. Third revised edition. New York and London, D. Appleton and Company, 1909.

This volume is the third revised edition of the well known work first published in 1901. It is too well known to need an extended review.

Certain changes have been made in this new edition. The section on Kryoscopy has been omitted and the section on X-Ray Diagnosis has

been curtailed. The sections on the Examination of the Blood and upon the Examination of the Stomach Contents and Faeces have been enlarged and improved. The section on the Diseases of the Nervous System has also been rewritten. A new section on Life Insurance Examinations has been added, and also one on the Diseases of the Tropics. The latest word in the use of Tuberculin as a diagnostic measure has been given. We note, however, the striking omission of any mention of the Wasserman reaction in the discussion of the diagnosis of syphilis.

The work as a whole is excellent and up to the usual Appleton standard.

The illustrations as a whole are very good and well illustrate the subject matter. We are sorry to see, however, that the pictures of artists' models are still retained upon which to represent points and areas of pain, and various anatomical landmarks. It is still "the book with the pictures." Diagrams would have served as well, if not better, for the feminine figure is not well adapted to show anatomical landmarks, and their use would be less sensational and in much better taste, especially in its use as a text book. It is a distinct blemish to an otherwise good book.

C. K. W., JR.

Diseases of Children. Edited by ABRAHAM JACOBI, M. D., LL. D. An authorized translation from "Die Deutsche Klinik," under the general editorial supervision of JULIUS L. SALINGER, M. D. D. Appleton Company, New York and London, 1910.

This volume gives to English reading physicians the benefit of a series of medical monographs written by some of the foremost German pediatricists. The monographs which comprise "Die Deutsche Klinik" cover the entire field of medicine but in the present volume the translator has selected only those relating to the diseases of childhood and arranged them so as to form a systematic treatise.

Dr. Jacobi in his preface speaks of the very obvious omission of American references which he tactfully observes is the loss of the German readers of the original. Immense strides along pediatric lines have been made in this country in the last decade and Germany is very slow in her appreciation of foreign achievements.

The volume contains twenty-three monographs. The first is on Diseases of the New Born in the First Days of Life by Professor Keller of Berlin. This is a masterpiece and nothing as concise and yet so complete and thorough has yet appeared. This article takes up defective and pathologic development, trauma during birth, infections, local and constitutional diseases. The monograph on Infant Feeding is by Professor Czerny of Breslau, whose researches have revolutionized some of the older teachings on the subject. He discusses the feeding of infants in general but gives no formulae or methods of milk modification. He strongly emphasizes a four hour feeding interval after the second week of life and states that a child should never be awakened from a sleep even if a meal is thereby omitted. He calls attention to the dangers of overfeeding or hypernutrition and advises that "not before the end of the first year

should a child have a liter of milk in twenty-four hours and never more than this." The entire subject is disposed of in fifteen pages. This in ratio to the size of the book is 1 to 55, while in nearly every American text-book on Diseases of Children the ratio is from 1:15 to 1:4.

Professor Soltmann of Leipsic contributes a very timely article on Scrofula and Tuberculosis. Many German writers have considered these as distinct and separate diseases while in the later American works the term scrofula has disappeared. Soltmann considers scrofula as a non-bacillary hereditary tuberculosis. This explains the descent of scrofulous children from phthisical parents. He depicts two types, the torpid, characterized by the coarse thick and broad lines of the face, swollen nose, thickened lips, enlarged lymphatic glands, flabby flesh, and distended abdomen, and the erethistic, with soft silky hair, languid eyes, reddened cheeks, delicate skin permeated by a blue network of veins, etc. In scrofulosis there are numerous local phenomena while in tuberculosis the constitutional symptoms are all important.

One of the most readable and valuable papers from a clinical view point is the monograph on Pneumonia of Children and its Treatment by the venerable Henoch. This should be read by every practitioner of medicine for it is full of valuable suggestions and timely warnings.

Space forbids a discussion of all the papers. Each article is written in a masterful manner by men of international renown and it seems invividious to select any one of them for special commendation.

The book is admirably translated and is very readable. The translator has carefully avoided involved German sentences and Teutonic idioms.

The careful editorial hand of Dr. Jacobi is found in every article and in foot notes or bracketed in the text are many valuable suggestions, criticisms, and additions which enhance the value of this excellent work for the American practitioner.

H. L. K. S.

Treatment of the Diseases of Children. By CHARLES GILMORE KERLEY, M. D. Second edition, revised. W. B. Saunders Company, Philadelphia and London, 1910.

A second edition of this volume appearing in less than two years shows the popularity of the work and its appreciation by the medical practitioners to whom it was dedicated. The present volume contains thirty-two more pages and several new illustrations. It shows many evidences of careful revision. A noteworthy example of this is a chapter on vaccine therapy with a clear and lucid description of the technic. The new diagnostic methods of detecting latent or doubtful cases of tuberculosis are explained at length.

All that was said in favor of the first edition applies with even greater force to this enlarged and revised edition. No general practitioner of medicine can afford to do without this useful and practical book.

H. L. K. S.

Formulaire de Pouché pour les Maladies des Enfants, par le DR. JULES COMBY, Médecin de l'Hôpital des Enfants Malades. Troisième édition, entièrement refondue et conforme au Nouveau Codex.—Paris, Vigot Frères, Editeurs, 23, Place de l'Ecole de Médecine. Un volume in-18 raisin de 636 pages, reliure souple. 8 francs.

This little pocket formulary has reached a third edition in eight years so that it cannot be said to be "without honor in its own country." It is a small 16mo volume with a flexible leather cover, well printed on good paper. The book is divided into three parts. The first contains a short description with methods of treatment and prescriptions for all diseases and conditions of childhood which are arranged alphabetically.

The second part contains a list of drugs which is very complete and occupies 310 pages. A short description of the drug and how it is obtained and prepared is first given followed by the indications for its use and method of employment. Under castor oil for instance are given six ways to disguise its taste and render it palatable.

The third part is a table of drugs and drug dosage. A complete index increases the value of the work.

H. L. K. S.

A Manual of Operative Surgery. By SIR FREDERICK TREVES, Bart., G. C. V. O., C. B., LL. D., F. R. C. S., Sergeant-Surgeon to H. M. the King, Surgeon-in-Ordinary to H. R. H. the Prince of Wales, Consulting Surgeon to the London Hospital; and JONATHAN HUTCHINSON, F. R. C. S., Surgeon to the London Hospital. New (3d) Edition, revised and rewritten. In two octavo volumes. Volume II, 820 pages, with 302 engravings, and 8 full-page plates. Half morocco, \$6.50. net. Lea & Febiger, Publishers, Philadelphia and New York, 1910.

The second volume of Treves' Manual of Operative Surgery is divided into six parts (Parts III to VIII inclusive).

The title subjects of the parts in the order in which they are considered are: "Operations on the Head, Neck and Spine," "Operations on the Thorax and Breasts," "Operations on Arteries, Veins and Nerves," "Amputations," "Operations on Bones and Joints." and "Operations on Tendons, Including the Division of Contracted Muscles, Ligaments and Fasciae."

The description of operative methods is clear and concise and there is a pleasing absence of confusion arising from the authors' attempt to describe too many methods of doing any one operation. The authors are content with describing what they consider the best.

The reader might wish that the volume was more profusely illustrated, but the subject matter is well arranged and beautifully printed and the volume as a whole has the same general character of excellence as the first volume.

J. M. B.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, etc., by Leading Members of the Medical Profession Throughout the World. Edited by W. T. LONGCOPE, M. D., Philadelphia, U. S. A. J. B. Lippincott Company, Philadelphia. Vol. IV., Nineteenth Series, 1909.

Among the many articles of merit we would mention the following: "The Use of Tuberculin in Treatment," by Louis Hamman, M. D., of Baltimore, Md. The essay covers a general survey of the entire subject, describing the various varieties of sera, their mode of administration and cautions to be used in their exhibition.

"Diagnosis and Treatment of Pernicious Anæmia," by Walter L. Biering, M. D., Iowa City, Iowa. After dealing with the blood-picture present in pernicious anæmia the writer gives the following summary of treatment: (a) judicious application of rest, (b) a nutritious diet in which food stuffs rich in purin bodies are to be restricted; (c) a course of arsenic in moderate doses; (d) some measure, preferably colonic irrigation, to facilitate cleansing of the large bowel, and (e) encouragement, some of the methods of psychotherapy can be applied with benefit.

The recently added Department of Parasitology contains an article on *Hymenolepis Nana* and one on *Framboesia Tropica*, both of which are of more interest to medical men in tropical climes than they are to the average practitioner.

H. D. C.

Exercise in Education and Medicine. By R. TAIT MCKENZIE, A. B., M. D., Professor of Physical Education, and Director of the Department, University of Pennsylvania. Octavo of 406 pages, with 346 illustrations. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, \$3.50 net; half morocco, \$5.00 net.

This beautifully illustrated book, written by a master of the art of physical training should be in every physician's library. The indifference and indeed ignorance, of the medical profession regarding the value of physical exercise in mental, moral and social training, to say nothing of its application in disease has been one of the main reasons why osteopathy and other systems of mechano-therapy and so-called physical culture have flourished.

Among the subjects discussed in the book are: the physiology of exercise; the various national systems of physical training, including the German, the Swedish and the Japanese; the use of apparatus; playgrounds; physical education in schools, and the application of exercise in the treatment of various pathological conditions, such as flat foot, round shoulders, scoliosis, diseases of the circulation, obesity and nervous diseases. Many a physician on reading this treatise will be surprised to find what a valuable therapeutic measure he has neglected.

A. T. L.

Röntgen Rays and Electrotherapeutics. With Chapters on Radium and Phototherapy. By M. K. KASSABIAN, M. D., Director Röntgen Ray Laboratory, Philadelphia General Hospital. Second Edition. Cloth. Pages 527, with 304 illustrations. Philadelphia, J. B. Lippincott Co., 1910.

This book is the best and most complete compendium on the subject of Röntgenography that we have seen produced in English. The author has had the rare good sense to write very completely about the best methods employed by many experts throughout the world without trying to exploit himself and his own methods only. The subject is treated in three parts: 1, Electrotherapeutics; 2, Röntgen Rays in Diagnosis; 3, Radiotherapy, Radium, and Phototherapy. The writer quotes directly from many authorities so that the book presents the best opinions obtainable. The part treating of the Röntgen Rays is particularly good. The author shows considerable local color in his views which is but natural, and Philadelphia "color" in Röntgen Ray matters is a good one to have.

It has always been a matter of wonder to us why writers on electrotherapeutics and the Röntgen Rays always consider it necessary to append "chapters on radium, phototherapy, etc." They are usually very meagre and it would seem much wiser to amputate this useless appendage and leave these subjects to the few authorities who are competent to cover the field with monographs.

To American publishers we would recommend the example of European works of a similar nature to which is appended a complete bibliography on the subjects considered. It is to be hoped American publishers may be able at no distant day to give us the benefit of the rotophograph process of reproducing radiographs. This process is employed by foreign publishers but the cost to Americans is prohibitive at the present time. As an example of book-making, Kassabian on "Röntgen Rays" is a worthy example of the distinguished house that publishes it. We heartily recommend it to all students and practitioners who are anxious to study that increasingly important specialty, electro-radio-therapeutics.

A. H.

New World Science Series—Primer of Sanitation. Being a simple work on disease germs and how to fight them. By JOHN W. RITCHIE, Professor of Biology, College of William and Mary, Virginia. Illustrated by Karl Hassman, Yonkers-on-Hudson, New York. World Book Company, 1909.

This very attractive little book of two hundred pages cannot but prove interesting to the public school pupils for whom it is primarily intended. It will also undoubtedly be read with much profit by many parents. The information given is surprisingly accurate and includes the results of many late researches. If the lessons so plainly set down are really learned, there is no question but that the sanitation of our cities and also of the country districts will be vastly improved. The rising generation appre-

ciating the great benefits to be derived from lessening the ravages of preventable disease and the ease with which death rates can be lowered will insist on proper regulation of such matters. The illustrations and diagrams are ingenious and impressive. In the text are many homely similes drawn from common life which instantly claim the attention, and put old facts in a new light.

The general plan of the book includes a brief discussion of the minute structure of the body, its cell composition being compared to the brick structure of a house, the bricks being evident only on close inspection. Mention of the two factors in the bodily conflict with bacteria, namely the invading germ and the resisting tissues, follows. Brief definitions of the simpler bacteriological terms precedes the study of special diseases. The chapters on malaria, and yellow fever, with the story of the discovery of the relation of mosquitoes to these diseases is of absorbing interest to any one, and will doubtless be read eagerly by children.

In the concluding chapters the duties of citizens in these matters are explained, and it does not seem likely that they will be ignored by any one, child or adult, who has the privilege of reading the book. The various subjects are authoritatively discussed and convincing proofs, in the way of statistics and diagrams, are given for most of the statements made. Unpleasant details are handled in a way that could not offend the most refined taste. The Primer of Sanitation fills a distinct need in public school teaching, and should have a wide circulation.

A. T. L.

SURGERY

Edited by Albert Vander Veer, M. D. and Arthur W. Elting, M. D.

The Surgical Treatment of Chronic Icterus. (Zur chirurgischen Behandlung des chronischen Ikterus.)

HANS KEHR. *Muenchener medizinische Wochenschrift*, November 30, 1909.

Under this heading are grouped those cases in which there is some obstruction of the bile ducts. These obstructions may be due to stones or other foreign bodies, scars, strictures, tumors, as well as the swollen and thickened pancreatic tissues. Icterus of inflammatory or infectious origin or that associated with echinococcus disease is of a different type and is not considered in this article. The fear of hemorrhage after operations upon jaundiced patients oftentimes restrains physicians and surgeons from undertaking them.

The writer presents the result of his experiences in the management of this class of cases. He states that in his private clinic he has done more than 1,500 operations upon the biliary system. Of late years the character of the cases which come to him have grown progressively more difficult, and for that reason he has seen more of the cases of chronic icterus.

There are only two indications, in the writer's judgment, for operations upon the biliary system: first, the absolute indication in acute and chronic empyema of the gall-bladder and chronic occlusion of the common duct; and, secondly, the relative indication in cases of recurring biliary colic.

In 125 cases which the writer has operated upon in the last twelve months he has encountered the first or absolute indication in 100 and the relative or second indication in only twenty-five. In cases of chronic icterus in which an intelligent line of medical treatment has been carried out without success, surgery must be resorted to. In 125 operations during the past year, in forty-five instances chronic icterus was encountered, thirty-six times due to stone, four times due to stricture of the common duct, twice to carcinoma, and three times to pancreatitis.

It is sometimes difficult to differentiate icterus due to stone from that due to tumor. The writer believes that, furthermore, many cases of so-called catarrhal jaundice are due to a swelling of the pancreas. Frequently patients with carcinoma of the common duct are treated for months with a diagnosis of catarrhal jaundice and usually a favorable opportunity for operation is allowed to escape.

The writer advises internists to always make a favorable prognosis in cases of jaundice with a great deal of reserve. In cases of jaundice which persist more than six weeks, with loss of appetite and strength, the writer believes an operation is advisable. In some instances both colic as well as jaundice can be almost lacking in cases of obstruction of the common duct and only recurring attacks of fever, with pain in the region of the liver, points to the probability of trouble in this locality. The change in the intensity of the icterus is also characteristic of stone in the common duct. On the other hand, in obstruction due to scar or tumor, the icterus usually increases from week to week. In from 70 to 80 per cent. of the cases of stone, the gall-bladder is contracted, but in most cases of tumor the gall-bladder is enlarged. In brief one may say that an icterus which begins with pain and increases from week to week with enlargement of the gall-bladder, is usually apt to be due to some tumorous obstruction of the common duct. If colic occurs the icterus varies in intensity and chills and fever are present, and the obstruction is probably due to stone. When such a condition has existed for a few weeks it is a great mistake to defer operation. He advises against the use of all the so-called cholegogues.

The danger of chronic icterus lies in the development of a biliary cirrhosis, cholangitis, or cholemic diathesis. The writer especially emphasizes the fact that the internists should not wait to call in a surgeon until the case is fit only for the pathologist.

The fear of hemorrhage after operation upon icteric patients is greatly exaggerated. In the last sixty cases of chronic icterus operated upon by the writer he has lost only one patient from this cause, and this one had a carcinoma. It is customary to give every case of icterus two grams of calcium chloride three times a day for six days before the operation.

He believes that the fear of post-operative hemorrhage is no longer an argument against undertaking operating in such a condition. Of the forty-five cases of chronic icterus operated upon by the writer in the

last year nine died, a mortality of 20 per cent., three of these had carcinoma, two had advanced cirrhosis, one a diffuse cholangitis. Of the remaining eighty non-icteric gall-bladder cases upon which he operated only two died. In one of these there was echinococcus disease.

The fear of many physicians of peritonitis as an accompaniment or a result of gall-stone operations is also quite groundless.

In conclusion the writer states that the Cammidge reaction because of the difficulty of its performance and interpretation, is of little or no value to the practicing physician.

Concerning the Condition of the Lungs and Heart after Abdominal Operations. (Ueber das Verhalten der Lungen und des Herzens nach abdominalen Eingriffen.)

ALEXANDER V. LICHTENBERG. *Münchener medizinische Wochenschrift*, March 2, 1909.

Recent publications would seem to indicate that there has been a lessening in the percentage of post-operative pulmonary complications. The writer finds that these complications are responsible for 29 per cent. of the deaths after operations upon the stomach, 15 per cent. of the deaths after operations upon the bile passages, 25 per cent. of the deaths after hernia operations, 44 per cent. of the deaths after thyroid operations, and 20 per cent. of the deaths after gynecological operations.

He calls attention to the fact that in the articles hitherto published the statistics are not of a large number of consecutive cases and therefore possess only a relative value. In the present article he reports a careful study of 100 consecutive abdominal operations performed at the Heidelberg clinic between the middle of January and the middle of March, 1908.

In all of these cases careful examination of the heart and lungs as well as an estimation of the blood pressure was made before operation. An estimation of the blood pressure was also made the afternoon after each operation. The heart and lungs were examined every day for the first seven days, after which they were examined at intervals of from one to three days.

In thirty-five of these cases physical signs were found after the operation which suggested a pneumonic complication. In thirty-eight of these cases there were indications of bronchitis after the operation, while twenty-seven of them were quite free from all evidence of heart or lung disturbance.

The anesthetics used were chloroform, chloroform and ether, ether, and local anesthesia. None of the patients died as a result of the pulmonary complications. After all kinds of general anesthesia, there was a fall in the blood pressure after operation, which was usually not restored to normal until from ten to fourteen days later. After local anesthesia as a rule there was a rise in blood pressure.

From his studies he concludes:

1. Post-operative lung complications, in the absolute sense, occur very much more frequently than is generally assumed because in a great number of instances they are entirely unnoticed. Slight elevations of temperature during the first few days after aseptic operations are usually due to such occult lung complications.

2. His investigations demonstrate that the post-operative changes in the lungs cannot be regarded as post-operative pneumonia, but they may form the groundwork for the development of such a pneumonia or they may be entirely cleared up without harm to the patient.

3. Most post-operative lung complications develop immediately after operation and are demonstrable on the second, third, or fourth days thereafter. The method of anesthesia does not appear to affect the percentage or character of the lung complications.

4. Ether pneumonia is relatively rare. The most common form of post-operative pneumonia is the embolic; occasionally hypostatic pneumonia occurs.

5. Pronounced heart lesions appear to be of less etiological importance than relatively slight changes in the vascular system and myo-cardium, which changes are really of much greater importance.

6. From the mobility of the margins of the lungs, fairly definite conclusions can be drawn during the early days after operation as to the existence of occult lung complications.

7. The character of the blood-pressure curve gives important indications as to the condition of the circulatory organs and affords positive indication for medication.

On Congenital Sarcoma of the Femur Healed through Operation and Röntgen-ray Treatment, with Remarks upon Congenital Malignant Tumors. (Ueber congenitales Femursarkom geheilt durch operative und Röntgen-Behandlung nebst Bemerkungen über congenitale maligne Tumoren.)

CARL GOEBEL. *Archiv für klinische Chirurgie*, LXXXVII, 1908.

The case reported by the author is that of a three-weeks-old boy with negative family history. There was a large tumor of right thigh which microscopically proved to be a spindle cell sarcoma and anatomically warranted the belief that it arose from the periosteum. It was partially removed by operation and the rest of the tumor was made to disappear under X-ray treatment. The histological changes were followed by means of microscopic examination. They consisted in necrosis of the tumor cells, followed by inflammatory action of the surrounding tissue. The paper is worth while reviewing because of the statistics given upon the subject of congenital malignant tumors. These the author divides into three groups: (1) mixed tumors which contain tissues from several germ layers; (2) malignant tumors of specific structures which resemble closely

normal tissues, such as the glioma of the retina; (3) true sarcoma and carcinoma.

In his collection of cases the author excludes those coming on in the first years of life. He includes only those found at birth or a very short time after. He regards the subject as of great importance in its bearing upon the etiology of tumors in general, because the question of parasitic origin and trauma may be excluded. Heredity also plays no part as far as he was able to determine from his series of cases.

Under purely congenital sarcoma of the alimentary tract he has collected one each from the cheek, parotid gland, tongue, small intestine, large intestine, rectum, liver, and seven from the adrenal; from urogenital system one case of sarcoma of the testicle; from the lymph system four cases, one each of the axillary region and inguinal region, and two of general lympho-sarcomatosis; from the nervous system two cases, one a spindle cell sarcoma of the orbit, the other an alveolar sarcoma of the right frontal region. He excludes cases of glioma.

From the skin and soft tissue, including subcutaneous tissues and fascia, nine cases have been collected. Microscopic diagnosis of these cases includes spindle cell sarcoma, round cell sarcoma, alveolar sarcoma, and angio-sarcoma, and several simply sarcoma. One case was primary in the face with metastases to all parts of the body. The case of angio-sarcoma was distributed upon the leg, abdomen, and gums. Metastases distinctly sarcomatous in nature were found in the nerves, lungs, and sternum. One case of spindle cell sarcoma was primary in the shoulder; one primary in the fascia of the leg; one primary in the fascia of the thigh.

Those diagnosed as round cell sarcoma, one was primary in the leg; another was primary in the thigh. The alveolar sarcoma was primary in the right side of the face and neck.

From the bony system he reports three cases, one from the orbit and one each from the upper and lower jaw. Microscopic diagnoses not given, although he states that the last two are unquestionably of myelogenous origin.

He also includes five other cases, one of chondro-sarcoma, one of osteo-sarcoma, and three of doubtful diagnosis but of unquestionable malignancy. He follows by giving the references to eighteen cases of sarcoma which may not be included as strictly congenital, although they occurred between the fourth and eleventh months of life.

In his conclusions he emphasizes the fact that the majority of these cases of malignant tumors of the new born were in places, which in extra-uterine life are subject to trauma and which are often ascribed to trauma. For obvious reasons he excludes the possibility of a parasitic origin.

Besides this series of forty-two cases, he mentions one case of Friedrich, which he reports as an undoubted case of inoculation of a foetus with carcinoma of the uterus from the mother.

ALBANY MEDICAL ANNALS

Original Communications

THE PHYSICS OF LIGHT AND ELECTRIC THERAPY.

President's Annual Address before the American Electro-Therapeutic Association at Saratoga Springs, New York, September 13, 1910.

By T. D. CROTHERS, M. D.,
Hartford, Conn.

The recent discoveries in regard to the ultra violet rays and the perfection of the micro-photographic camera with its rapidly moving, sensitive films has carried the limits of vision of the human eye into a very wide and unknown region.

Literally, it has opened a new universe of activity as wonderful as that seen by the telescope in the sidereal world above us. Particles of matter, molecules, and a vast world of atomic bodies invisible to the naked eye, through the ordinary microscope, come into view, and are seen to be in a state of incessant activity.

This molecular world is a mass of atoms moving with intense velocity in all directions, forming and reforming, in an infinite variety of geometrical shapes and figures, crystallizing, breaking down and building up again; and through it all there seems to be some plan or purpose, suggesting the presence of laws and constituting a new continent of physical forces that will require centuries of observation to explore and understand.

This microscopic universe with its vast possibilities suggests that a study of light with the newer appliances may not only carry the vision of the human eye far beyond the narrow bounds of the present, but may open a new field of therapeutic forces beyond anything that we can at present conceive.

In the commercial world, light from the sun and from the electric currents have come into prominence with possible powers and practical utilities that suggest an enormous possible field for use in the future.

Already the phenomenal effects, both physiological and com-

mercial from light and electric currents, indicate how much there is before us, and that we are on the very borders of a new world of discovery.

As in all other efforts to explore the unknown, there must be some theories which as guide posts will assist the explorer to see the road, and understand something of the movement and direction of the forces.

Hence theories are essential as a framework, or as mountain peaks, from which we can make measurements, and date the grouping of facts in our study of the wide ranges of the unknown about us.

When such theories are supported by a great number of facts that explain the phenomena in a satisfactory way, they become practical aids in the clearing up of the mysteries, and pointing out the laws which govern and control them.

The physics of light, while still in a theoretic stage has attained a degree of prominence and certainty, from the vast number of facts on which it is based, and its theories describe conditions and realities most probable from our present knowledge.

Long ago Newton and others conceived that all light was the projection of minute particles of bodies that became luminous when thrown off with intense velocity as from the sun or other bodies. Such bodies were either luminous or made so by their tremendous velocity.

They came to the earth like a veritable rain or shower of molecules. He also explained that radiated light coming from bodies previously dark was simply the disturbance and liberation of energies stored up in the molecules and given out in streams of great volume.

These theories were accepted for a long time, and studies of what the particles were, comprised the subject of many exhaustive inquiries, in which the difficulties increased and the explanations became more obscure.

Finally Faraday, Tyndall, and other noted authors concluded that light must be a wave motion, and not the projection of invisible foreign bodies. They asserted that light, heat and electric currents were simply forms of motion, which differed in vibration, wave length and velocity, and their effects on objects were transformations into heat, light, and other manifestations.

The sun's rays coming into the earth's atmosphere become transformed into heat, into electricity and different forms of motion. This theory is now accepted and gives the clearest explanation of these various agencies, and is supported by an increasing mass of facts and observations.

Thus the light waves from the sun do not all reach the earth, but in passing through the atmosphere of the earth, break up into heat, electric currents and other unknown agencies.

The atmosphere of the earth is a mass of invisible particles and molecules which are thrown into intense vibration by the light of the sun. This forms heat, and clouds and vapor are generated with electric currents.

Meteorology is a study of this vibratory activity of heat, vapor, electrical currents and their incessant movement.

When the light waves reach the earth they are found to be limited to a single octave, visible to the naked eye and represented by the colors of the rainbow. This octave begins with the red whose waves are the longest and ends with the violet which has the shortest wave lengths, and these are all measurable with exactness.

Beyond these, there are great numbers of other wave motions stretching out from the red ray on one side, and from the violet ray on the other. On one side the waves are of increasing lengths, and on the other they are decreasing.

Beyond this, luminous octave there have already been traced over sixty series of radiated light in which the wave lengths and some of the physical properties can be determined.

The eye is only fitted to recognize these vibratory waves of a single octave, where the rapidity is limited to from five hundred billions to seven hundred billions per second; and beyond that nothing is visible. This is analagous to the limitations of the ear, which can only recognize as sounds, vibrations within the range of from thirty-two to thirty-six thousand per second; beyond this all is silence.

Light produced by electrical appliances extends over hundreds of series of octaves, of which only a few have been recognized and analyzed and grouped. Some of them are luminous, others are not, or are only made so by the application of some particular stimulus.

A wonderful field of discovery awaits the investigator in this

direction. In a study of octaves of vibrations visible to the senses, as light, it has been shown clearly that different waves have different physiological actions on the body, and they can be transformed, neutralized, diverted or cut out altogether.

Some of the light waves can be greatly intensified in their volume, or made destructive, breaking down and changing the tissue which they fall upon. Others can be blended, cumulated or neutralized and their direction and force changed. All light waves are readily transformed into heat, and this is the chemical action so prominent in many cases.

In plant life this chemical action is constructive, changing the gases from one media to another, polarizing and adding new substances, thus all plant life is the transformation of light and heat waves into substances.

Iridescence is the name given to the color effect seen in precious stones and other objects, and represents a blend of the various colors, emanating from the action of light vibrations on the object.

Light falling in the irregular surfaces is radiated according to the plane, or neutralized and blended and given out as a complex of the various waves.

Fluorescence is a name describing the condition of bodies giving out luminous waves. This may be the result of breaking up the molecules, and the liberation of certain energies which appear in vibrations. Such bodies may have absorbed and cumulated light waves and held them in a non-luminous form, until from some particular causes the atom breaks up and the bonds which have held them liberate the transformed waves back to light vibrations again.

Phosphorescent bodies are of this class, so also is radium.

Light has been stored up, and is released from the compact in response to some agent. Why may not the same thing occur in the action of light on the body, where the wave energies have been stored up in cell and tissue, and are released by the action of similar waves of energy? This is not at all improbable.

Some very curious incidents have been reported of the fluorescence of the body, noted in luminous waves emanating from it. Some of these incidents are described as following from the effects of electric currents, or the sun light on the body.

Going into a dark room photographs have been taken of the

body after this exposure there. It is very evident that light can be stored up in the animal tissue, as well as in mineral substance, but so far we have not scientific studies that clear up this subject with any kind of exactness.

We are all familiar with the vibratory effect of the sun light on the air, and the constant liberation of vapor from the surface of the earth, of its absorption and condensation, and the electric currents which follow from this active change, as well as the changes of nitrogen and oxygen, going on in the upper air. This same vibratory action occurs in the animal and vegetable kingdom, and is simply forms of motion, of varying intensity and activity, in which the molecules and the ions both vegetable and mineral are in process of incessant change, gathering and breaking, forming and reforming, like the atoms of the invisible world, of which the microscope only gives us a faint intimation.

The effects of the different rays of light both in the solar spectrum and the electric current, produces stimulation, depression and destruction and transformation of the energies, into most complex conditions. All this has a physiologic, and therapeutic action, which we scarcely yet can conceive of.

So far we have been able to sift out and direct these waves according to certain crude conceptions, in which there is no doubt both beneficent and destructive activities. We can control these currents so that they can become energetic and increase the brain and nerve vigor or diminish the disease tendencies, and destroy germ life, and in many other ways have a decided therapeutic efficiency.

The electric wave currents both luminous and non-luminous are simply wave energies, vibrations, which we can understand in some slight measure, and when compared with the rays of the sun seem to differ only in intensity and volume.

Heat rays from both the sun and electric forces are transformations and utilizations from obstruction, chemical obstacles and many other tendencies. While the short waves are destructive and corroding to certain animal growths, they have a certain chemical action on microscopic particles and gases.

We can now assert with some positiveness that these short waves as in the X-ray, ultra violet and radium can take the place of the surgeon in eroding tissue, destroying harmful germs, and

giving new power to the body, promoting its metabolic changes in many marvelous ways.

It is also evident that many of these vibratory waves may be made to pass through the body, distinctly influencing all cells and tissues, while other waves are absorbed and transformed on the surface. Some of these transformed waves become heat up to the point of corrosion; others increase the perspiratory glands, while others diminish sensations, stopping the vibrations of the body.

There can be no doubt that invisible waves of electric energy fill all space and in a state of incessant activity in which the body is tremendously impressed, also that these complex wave energies follow certain fixed laws which are responsive, obstructive, stimulative to increase or depress the physical energies of the body.

Cell life, organic and inorganic particles, ions and the smallest possible atoms of matter are all moving in obedience to this vibratory action, storing up, absorbing forces, utilizing them, giving them out by attraction or repulsion, and in almost infinite ways following lines in obedience to laws and forces unknown.

It is this vibratory action that we may control, increase or diminish, depending upon the knowledge and the application of exact means to ends. We realize that we can increase or diminish the arterial tension by light or electric currents, that new force and impetus may be given to the protoplasmic molecules, and that the movement of the fluids in the body may be markedly changed.

Every practical student notes the specific changes coming from the sun light, and how they can be varied, transformed and made therapeutic. In much the same way the electric current has a very startling effect when directed by experience and observation, and this is only the beginning of a vast unknown field of therapeutic possibilities.

The carbon arc lights project an assemblage of wave lengths of certain intensity and power, with a distinct physiological action. The incandescent lamp gives out another range of wave vibrations, wanting in some agents and prominent in others, less efficient because of the glass globes surrounding them, but marked in certain effects.

The radiant light bath pouring on the body certain distinct vibratory activities, is followed by intense stimulation of the sweat glands, diverting the blood to the surface and producing many other effects equally marked. In all this there is literally a bombardment of the body with vibratory waves which are transformed into heat, absorbed on the surface, or passed into the interior of the body, rousing up new activities, neutralizing or controlling old ones.

All electric currents are the same, changing the activities of the body both on the surface and in the interior. This is the physics of light. The eye is provided with protective muscles to cut off and diminish certain vibratory rays, and transfer, or neutralize their effects, and yet the eye is dependent on these vibrations for its development and perfection.

The color effects which the eye can appreciate and determine, and which are developed into artistic effects such as great paintings, are the direct results of the stimulant action of these vibrations. It is the beneficent action of these wave motions, and their peculiar physiological effect, that build up and strengthen. Another class of vibrations are destructive.

The short ultra violet waves, unless controled and regulated would soon destroy the eye. Along these lines are some very remarkable experiments in the commercial world, to determine the quality and character of light waves that will bring the highest efficiency to the sense of sight, and produce the best economical effects as illuminants.

In much the same way sound waves that rouse the aesthetic sense and develop musical culture, may act in the most healthy, stimulating way, finally develop into great harmonies of classic music. On the other hand vibratory sounds of a different character may destroy the sense of hearing, and the cell responsiveness.

Electric lights and currents are forces that can act in the same way, curing or injuring the body, raising it up, or destroying it.

Death from a stroke of lightning is simply an immense volume of intense short vibrations passing through the body with such activity as to suspend all motions and movements at once. Where evidence of burning appears, these short rays have been transformed into heat. When the current strikes a house the obstruction to the waves changes them to heat and combustion follows.

Great volumes of electric currents pass from the clouds to the earth, repeatedly, without causing destruction, or being converted into heat. The rapidity with which they pass through the air leaves a vacuum into which the air rushes producing the sound of thunder.

It is the obstruction of these vibratory waves that produces transformed effects. Electrolysis is the dissolving of chemical compounds by the electric currents, and where this takes place on the surface of the body as in cataphoresis, the molecules of the substance are forced in, carrying with them electrical powers which have a therapeutic action.

This is verified in many practical ways, and the physics of it is that the vibratory waves may be used to force into the tissue molecules and ions of a great variety of agents. The erosive qualities of the electrical currents may be illustrated by the erosive action of sand blasts, where mineral particles are driven with great velocity against the obstacle, eroding it in a most pronounced way.

This gives some idea of light and the electric current, whose intense vibrations not only breaks up the natural movements of tissue, but very likely forces atoms or ions into the substance where it is transformed and changed to so called stimulants and tonics.

The polarization of these wave energies into positive and negative poles and their rushing together with frequent attractions and repulsions are all forces with physiological action, and yet acting along purely physical lines.

Why the space between two poles should be made luminous by the attraction of opposite currents of vibrations, and the interchange of these great forces and powers that are in some degree measurable, transformable and are already utilized, are questions which awaits the future.

The various machines for the generation of currents and electric lights and the great variety of interrupted currents that can be diverted, intensified and changed, are all appliances to increase the physical efficiency of both the long and short waves and concentrate their activity where it will be of the most advantage.

In the commercial world this energy is turned into power to drive machinery and do practical work, or is turned into heat

and luminous rays and made to transmit sound over receptive wires, or produce vibrations in the upper air, which are interpreted at long distances.

The physics is the same of the light and electric currents in the body. The microscopic universe where cell life and molecular changes are going on, are all in obedience to the same vibratory activities, and the same laws of the transformation of energies.

The smallest bodies known called the ions, together with the atoms and molecules respond to these activities, are both obstructive and destructive and act to build up and tear down by the same laws under the same conditions.

There is one fact of great significance at present, that is the tremendous obstacles to be overcome in utilizing these forces and preventing the enormous waste of power that at the present time attends our efforts. Thus where electricity is put to service as a power producer, only a small per cent. can be made available. The rest is lost, scattered, absorbed and transformed through the fault of the apparatus. In the same way the current that is transformed into heat and light, is attended with enormous loss, so much so, that it makes its utilization so expensive that it has not come into general use.

This vibratory force has not yet been transformed and utilized to its fullest extent. Electricity as an illuminant is still a great problem, for the same reason; the enormous loss of energies that cannot be transformed into light waves.

Much the same difficulties confront the therapeutic use of these vibratory energies, in electric light and currents, but this is being rapidly overcome, and every year brings new advances and new solutions that approach the ideal.

In some degree the same difficulties prevent the use of solar light from being harnessed into the service of therapeutic power. Of course the loss here is not to be considered, but how to secure the greatest efficiency with the least peril is the problem.

In regard to the electric light, the vast number of transformers, accumulators, and various means of intensifying the current, controlling the wave lengths, increasing its volume, and diminishing the current, all show intense activity promising a possibility of turning these energies to a practical account, so as to make them available in every physician's office in the country.

Some very interesting studies have been made of bodies which are called electrolytic. It is assumed that these bodies have the power of absorbing electric waves and holding them in some form, awaiting the proper stimulus before liberation.

Chemical molecules of the mineral world are supposed to have this particular absorbing force, and thus become conductors and transformers of these activities. They are supposed to be receptive and responsive and are called radium ions, the later term used to designate the possibility of their ability to travel and carry with them the forces which they have received from without.

Certain waters are supposed to contain these radio ions which are given out from heat or some other active cause, and the results are of course both remarkable and startling. There are, no doubt, physical forces of light, bottled up and carried around, liberated or retained, and when meeting the agent to which they respond, they are absorbed and become vivifying. This is another field of physics, which we are just on the borders of.

There are some conclusions which a study of the physics of light bring into prominence more as outlines for farther research and confirmation. First, the use of the sun light with its limited assemblage of color waves promises a very extensive field of therapeutic power in the treatment of disease.

It is evident that this agent can be made of tremendous efficiency in destroying germs, increasing the activities of the body. It is also clear that light passed through screens or glasses may be changed, and subject to a great variety of new uses and forces which only an exact knowledge and practical experience can demonstrate.

Second the electric radiant light while more complex than that of the sun light is richer in vibrations of short waves that can be used to promote physical efficiency, break down abnormal growths, check disturbance of forces and equalize the activities of the body. This includes both luminous and non-luminous rays, some of which are very harmful. Others are dangerous to germ forces, and in all there are immense possibilities of changing cell life, cell growth and nerve activities.

There is probably no therapeutic power of greater value in diseases of the brain and nervous system than that of the electric light and electric currents. It is no wild dream of the en-

thusiasts to assert that the electric wave vibrations are the best representations of vitality and life that we know of, and that its possibilities in checking disease, lengthening life producing efficiency, are unlimited.

There is nothing in the therapeutic world that can approximate it in certainty, accuracy and remedial power and force.

Third, the physics of electric currents and light indicates the necessity of generating the light and the current in the very best possible media and surroundings, free from dust, from external contaminating, microscopic molecules.

As in the production of sound highly polished varnished pianos, embellished with ornaments and used in luxurious rooms always suffer in tone, harmony and melody. This is because the vibrations of sound are interfered with, neutralized, crossed and disturbed. Hence the quality of the one is lowered and made more imperfect.

In much the same way the value of electric lights and currents may be greatly diminished and lessened by the effects of the atmosphere and surroundings. Its penetrating powers may be shortened, and its intensity and volume dissipated and transformed, depending on the obstruction which it meets in the surroundings.

The future electrical machines will be of the simplest character, devoid of ornaments, operated in the purest atmosphere, and on lines of control that can be regulated with mathematical exactness.

Fourth, a final conclusion of great significance appeals to all of us. Our books and writings while full of facts that are both startling and suggestive of tremendous possibilities in the future lose much of power and value from want of reference to the physics of electric currents and light.

The terms used to describe these complex and intricate energies, and their movements give no idea of the physics. They are literally a description of the physiology without any mention of the anatomy, or in other words it is like exploring a new country without any reference to the starting point or a well defined base.

The minute descriptions and analysis of the currents generated from machines and their different actions on the body without any idea of the physics or the meaning of these forces, or the theories which explain their action are a loss, and result in

vagueness, uncertainty. What we all need is some clear conception of the physics of the agency we are describing, and this becomes the starting point from which to compare, arrange and formulate some of the great laws which control these agencies.

Our work would assume larger and clearer proportions if we could have a well defined basis and definite conceptions of the forces that we are dealing with. This paper is offered as a contribution to this particular phase of the subject, and as an effort to attain for our future studies a better understanding of the physics (no matter how theoretical it may be) of the energies we are dealing with, and to establish some central facts from which we can go on with more certainty.

Among the many works, which not only indicate the need of this study, but suggest lines of research and paths that will lead to more distinct realization of these forces may be mentioned, "Radiation, Light and Illumination" by Prof. Steinmetz, "Light Therapeutics" by Dr. Kellogg, "Therapeutics of Radiant Light and Heat" by Dr. Snow. These are of the most advanced and suggestive studies. Other works of equal value bring us to the borders of a great undiscovered country full of therapeutic possibilities, more wonderful than any present commercial use of these forces.

THE DIAGNOSTIC HOUSE.

*President's Address delivered at the Meeting of the Third District Branch
of the Medical Society of the State of New York, October 4, 1910.*

BY ANDREW MACFARLANE, M. D.,

Albany, N. Y.

The tremendous growth in the science of medicine and the demand for greater exactitude has resulted in the gradual development of the various specialties.

This tendency to specialization has gained greater impetus because it is part of a world-wide movement common to all fields of human activity.

In our advancing and more complex civilization, the application of mind, as well as of body, have necessarily become more and more subdivided.

The call of this age is for greater and still greater concentration, with more intense development in special departments.

While the social evolution has had its manifest advantages in every field of human endeavor, there have also been disadvantages which have become evident in the industrial worker.

In the great industrial organizations the limitation of workers and mills to special subdivisions of the work has undoubtedly resulted in greater expertness and in lessened cost. The individual worker, however, has become more and more simply a part of the huge machine and less and less the intelligent and all-round mechanic. It has become possibly the public gain but surely the loss of the individual. It is beyond question that the mechanic of to-day is inferior in handicraft and artisan pride to his predecessor of only a few decades ago.

To-day the influence and standing of the general practitioner is distinctly less than it was, because the public understands that the specially trained men can do the special things better than the family physician who has to neglect much of the multiplicity of details of modern medicine. This, however, has not been an unmixed good for the specialist unconsciously magnifies his own relatively little field of work and is apt to suffer from a distorted judgment which unduly accentuates the similar series of phenomena which he naturally meets. His ability to measure perfectly the exact relationship of facts to one another and their true weight in the pathological sum-total becomes impaired. In spite, however, of these manifest disadvantages, specialism has not only come to stay but must remain as otherwise the progress of medical science would quickly and inevitably cease. One man could no more cover the field of medicine to-day than a single worker could master all the details of a huge manufacturing plant.

The problem then for our solution is: How can the medical profession, and as a result the public, profit by the knowledge of the specialist and yet avoid their apparently inevitable limitations? In other words, how can the physician be a medical Argus, i. e., one mind with a hundred eyes to bring him one hundred different kinds of facts upon which to base his knowledge and to draw his deductions.

The great corporations succeed only when their organization keeps pace with their industrial differentiation, and is such as

to make the best possible use of their specialization. The more subdivided the work, the more perfect must be the organization.

Medicine has developed equally if not more marvellously than mechanics, and to-day there is hardly an organ of the body which has not given up its innermost secrets to the persistent, audacious and at times fatal explorations of modern medical science. With this almost incalculable growth which has been accomplished in organization to make the best possible use of this almost unlimited field of knowledge.

The specialties are to-day separated, disjointed and each too often regards all the ills of the human body as entirely within its exclusive domain. Are we not in danger of losing that type of physician with keen vision, broad experience and penetrating insight who is able to comprehend in its totality the composite lesion present.

Although the present day graduate actually knows more than the former leaders of medicine, have we a practitioner to-day whose reputation fifty years from now will equal that of Trousseau, Nehmeyer or Flint? There are, indeed, those of our generation whose fame need no monuments and who will live as long as memory endures—Pasteur, Koch, Lister, Virchow, but they were not practitioners of medicine.

Then, too, in spite of this tremendous scientific development and its practical proof in the saving of lives and the almost total abolition of suffering resulting from modern surgery and midwifery, the prevention of typhoid, yellow fever, cholera, malaria and the contagious diseases and the serum treatment of disease, many of our apparently most intelligent fellow-citizens are being successful deluded every day by theories so senseless as to be beyond the pale of argument and so absurd as to make the green-goods operator and bunco-steerer green with envy.

Is this cultured inanity an inevitable psychological reaction? May it possibly be in part due to the fact that the individual parts of the body as a result of specialism have been as such too much considered, while the general co-ordination of the body has as a result been correspondingly neglected.

Modern medicine has made its tremendous advances because investigation has been substituted for speculation; explanation has taken the place of assertion and knowledge has driven out mystery. The alpha and omega of scientific medicine is the study

of the causation of disease and as a result, the discovery of its prevention or cure. Although it is given to but a few to become such benefactors to mankind as Behring, Ehrlich, our own Theobald Smith and our distinguished guest, Simon Flexner, yet every practitioner has individually in each case the same problems to solve, and success depends upon the same elements—thoroughness of investigation and truthfulness of interpretation. To profit by the work of the master minds, we too must at least have a little of their spirit and their inspiration. Our aim is the prolongation of life and the removal of the sorrow and suffering caused by disease. Its success depends on accurate diagnosis, which is based upon the most reasonable deduction from the largest series of facts. The more reasonable we are and the greater the series of facts upon which our deductions are based, the more accurate must be the diagnosis.

With all our added knowledge, have we correspondingly improved in our methods of diagnosis over those of fifty years ago? We use a few more instruments of precision and make some of the modern tests, but can any one conscientiously say to himself that he is doing all he can or ought to do in fulfilling the chief object of his professional career. How many times have we felt chagrined at having overlooked a condition which a casual examination would have revealed?

Even in cases carefully examined, our methods are so disjointed that the best results are not always readily attained. Let us take as an illustration a familiar example. A woman suffering from paroxysmal attacks of headache, the cause of which cannot be determined by the family physician. She is referred to an ophthalmologist who finds she has a moderate degree of astigmatism, probably not sufficient however to cause the distress. She is then referred in turn to a rhinologist, gynecologist, neurologist, gastro-enterologist, radiographer and others *ad infinitum*.

All have taken the same history; each has made more or less the same general examination together with their own special examination while ignorant to an extent of the findings of the others. There is at once evident a tremendous loss in time for both patient and physician with a multi-reduplication of the same work. Then, too, the patient begins to lose confidence in medical science, feels that she is being buffeted from pillar to post in a

hit-or-miss sort of fashion, and wonders when this apparently endless chain of experimentation will cease.

What manufacturer could succeed if each part of the work was carried out separately and under independent management?

What business enterprise could escape bankruptcy with such a needless loss of time and useless expenditure of labor?

Yet to no one is time more valuable than to the professional man. He has only his own few paltry hours a day and cannot multiply them a hundred or a thousand fold as does the business man or the manufacturer.

Another example: The patient decides for himself what particular organ is affected and chooses his specialist. He often limits his examination to his own special field, and then proceeds to treat him without any thorough knowledge of the condition of the other organs of the body.

How can our methods be modified so that the patient shall be thoroughly examined with the least useless expenditure of time and the least chance that any lesion present shall be overlooked?

Suppose there was a conveniently located house to which obscure and complicated cases could be sent for observation and examination. This building would be equipped with a complete clinical laboratory and with the apparatus and instruments necessary for every needful examination. It would be in charge of a well-trained house officer who had had hospital and laboratory experience, and an experienced nurse who would also be the general housekeeper.

The patient, with an obscure lesion, who came to consult the physician during his office hour when he was constantly being interrupted by the telephone, would be referred to this diagnostic house. His history would be taken by the house officer, who would in addition make the routine examinations.

The attending physician, with plenty of time and in perfect quiet, could make a thorough physical examination of the patient in bed and decide then what further examinations might be of assistance. If the special examinations were one or all indicated, then each specialist conversant with the patient's complete history as taken and knowing exactly what had already been found, would add his share positive or negative to the common fund of knowledge.

Such an examination would take a comparatively short time,

would be made under the most favorable conditions, and would be as thorough and complete as the nature of the case demanded and the sagacity of the physician indicated. The diagnosis would then be more nearly the real resultant of medical science and not a hit-or-miss.

The thought at once arises why cannot this examination be made in a general hospital with its large attending staff. The present general hospital is almost entirely given up to surgical cases and the person who is not in absolute need of hospital care often objects to being subjected to the cries of those coming out of the anaesthetic, the noise of the passage of the operative cases to and from the operating room, the confusion from the crowds of visitors and not the least the inevitable gossip in all large institutions. Then, too, the house staff are young, inexperienced and, at times, neglectful of the chronic patient whose condition seems unimportant in comparison with those acutely sick or undergoing a major operation.

The most remarkable medical development in the world is at Rochester, Minnesota. This small town of less than eight thousand inhabitants, remote from all the centers of population and in a sparsely settled country, has become the surgical capitol of the world. To it flock patients from all parts of this continent and even from Europe. It has become the Mecca for all the rising younger surgeons, and even the greatest visit it and look on with wonder and amazement. The secret of that success is not transcendent genius or marvellous skill, but the thoroughness and painstaking care with which each individual patient is examined, qualities which each one of us can and ought to exhibit. No surgical case is considered surgically until it has undergone a thorough medical examination.

Exactness of diagnosis has become more and more important as in many of the infectious diseases we are seeking to produce a cure by following Nature's lead. Therefore, there must be no guesswork, but a correct appreciation of the changes present and of Nature's method of combatting these conditions. Then, too, the effectiveness of this specific therapy is in geometric ratio to the time at which the diagnosis is made and the treatment inaugurated.

The successful treatment of the chronic invalid suffering from some form of arthritis, some disorder of the kidneys, the myo-

cardium or the gastro-intestinal tract or some phase of neurasthenia, may depend upon the correction of some defect whose recognition may demand the combined skill of many investigators and a period of time sufficient to allow careful scrutiny of all the metabolic processes.

The growth of medicine in the last three decades has been enormous, and it seems appalling for any one to seek to keep abreast completely with the work and literature, even in a single department. Yet the practical results of this work must be made available without too much hardship for the patients of all of us.

The growth of the future will then be along the line of medical organization, classification and the development of methods by which all these scattered threads will be brought together and woven in one beautiful and harmonizing whole.

Just as each member and organ of the body becomes a worthless piece of clay when separated from the body and gains its usefulness and importance only when in harmonious relation to the body, so I believe the true development of medicine will depend upon the harmonious co-aptation and relationship of all the specialties to one another and their individual subserviency to common weal.

ALBANY HOSPITAL.

EIGHTH REPORT OF PAVILION F, DEPARTMENT FOR MENTAL DISEASES, FOR THE YEAR ENDING SEPTEMBER 30, 1910.

By J. MONTGOMERY MOSHER, M. D.,

Attending Specialist in Mental Diseases.

To the Board of Governors:

I have the honor to present the eighth report of the operations of Pavilion F, for the year ending September 30, 1910.

There remained in the Pavilion on October 1, 1909, thirteen patients—six men and seven women. There have been admitted one hundred and fifty-nine men and one hundred and thirteen women. The whole number of patients under treatment was, therefore, two hundred and eighty-five.

There have been discharged two hundred and seventy-four patients—one hundred and sixty men and one hundred and fourteen women, and there remained in the Pavilion at the end of the year, five men and six women.

The following tables show the forms of disease and the results of treatment for the year, and since the opening of the Pavilion:

TABLE I.—SHOWING THE FORMS OF DISEASE AND THE RESULTS OF TREATMENT FOR THE YEAR ENDING SEPTEMBER 30, 1910.

FORM OF DISEASE.	Recov- ered		Im- proved		Unim- proved		Died		Remain- ing		Total		Total
	M	W	M	W	M	W	M	W	M	W	M	W	
Acute delirium.....	1	4	4	2	2	2	3	1	...	...	10	9	19
Confusional insanity...	1	3	3	3	6	8	1	...	2	2	13	16	29
Melancholia.....	2	3	3	10	4	11	...	1	...	...	9	25	34
Mania.....	...	...	...	1	1	7	...	...	2	1	10	10	11
Primary dementia.....	...	...	6	2	4	5	...	...	...	...	10	7	17
Recurrent insanity....	...	...	2	3	1	1	...	...	...	...	3	4	7
Chronic delusional in- sanity.....	...	...	...	1	7	2	...	...	1	1	8	4	12
General paralysis.....	...	...	...	1	7	...	...	...	1	...	8	1	9
Terminal dementia....	...	...	4	5	17	7	...	...	1	1	22	13	35
Idiocy and Imbecility.	...	...	1	8	7	1	...	...	...	...	9	8	17
Acute alcoholic de- lirium.....	24	2	...	...	1	...	1	...	...	...	26	2	28
Alcoholism.....	...	...	26	4	2	2	...	...	...	...	28	6	34
Drug addiction.....	1	1	...	...	...	1	...	...	...	...	1	2	3
Uraemia.....	...	...	...	...	1	...	1	1	...	...	2	1	3
Epilepsy.....	...	...	1	...	3	1	1	...	...	...	5	1	6
Neurasthenia.....	...	...	...	1	...	...	...	...	...	...	...	1	1
Hysteria.....	...	1	...	2	...	...	...	...	...	...	...	3	3
Organic brain disease.	...	...	...	1	1	1	1	2	...	...	2	4	6
Cerebral concussion...	1	...	...	...	...	...	...	...	...	...	1	...	1
Tuberculosis.....	...	...	1	...	...	...	2	...	...	...	3	...	3
Pneumonia.....	...	...	...	...	...	...	1	...	...	...	1	...	1
No diagnosis.....	...	...	...	...	...	...	...	...	...	...	3	3	6
Totals.....	30	14	50	37	65	55	12	5	5	6	165	120	285

TABLE II.—SHOWING THE FORMS OF DISEASE AND THE RESULTS OF TREATMENT SINCE THE OPENING OF THE PAVILION, FEBRUARY 18, 1902.

FORM OF DISEASE.	Recovered		Improved		Unimproved		Died		Remaining		Total		Total
	M	W	M	W	M	W	M	W	M	W	M	W	
Acute delirium.....	26	32	14	14	5	9	12	10	...	...	57	65	122
Confusional insanity..	8	5	12	17	14	13	5	3	2	2	41	40	81
Melancholia.....	21	28	35	74	35	78	1	4	...	...	92	184	276
Mania.....	5	12	14	22	17	33	1	...	...	2	37	69	106
Primary dementia....	2	4	15	6	30	13	...	...	...	...	47	23	70
Recurrent insanity....	...	...	10	14	10	12	...	...	...	...	20	26	46
Chronic delusional insanity.....	...	...	1	5	29	30	...	...	1	1	31	36	67
General paralysis.....	...	...	2	1	37	2	2	...	1	...	42	3	45
Terminal dementia....	...	...	24	26	87	75	17	14	1	1	129	116	245
Imbecility and Idiocy..	...	...	19	9	25	25	1	...	...	...	45	34	79
Acute alcoholic delirium.....	180	12	24	6	4	2	20	2	...	...	228	22	250
Alcoholism.....	19	5	135	12	10	5	1	...	...	...	165	22	187
Drug addiction.....	7	5	6	5	2	4	1	2	...	...	16	16	32
Ptomaine poisoning..	1	2	...	...	...	...	...	...	...	...	1	2	3
Uremia.....	...	...	1	...	1	...	7	1	...	...	9	1	10
Eclampsia.....	...	1	1	...	...	1	...	1	...	...	1	3	4
Epilepsy.....	...	...	11	2	14	5	1	...	...	...	26	7	33
Neurasthenia.....	3	...	18	10	4	11	...	...	...	...	25	21	46
Hysteria.....	2	5	1	16	1	1	...	...	...	...	4	22	26
Chorea minor.....	1	1	...	...	1	1	...	...	...	...	2	2	4
Exophthalmic goitre..	...	...	...	1	...	...	...	...	...	...	...	1	1
Nervousness.....	...	1	...	...	...	...	...	...	...	...	...	1	1
Hypochondriasis.....	...	...	9	...	2	...	1	...	...	...	12	...	12
Organic brain disease	...	...	10	5	8	5	6	5	...	...	24	15	39
Cerebral concussion...	1	...	3	...	...	...	...	...	...	...	4	...	4
Oedema of the brain..	...	...	...	...	1	...	1	...	...	...	2	...	2
Locomotor ataxia....	...	...	...	2	...	1	...	...	...	...	...	3	3
Myelitis.....	...	...	...	...	...	...	...	2	...	...	...	2	2
Cerebro-spinal meningitis.....	1	...	...	...	...	...	...	...	...	...	1	...	1
Meningitis.....	...	...	...	...	...	...	4	...	...	...	4	...	4
Multiple neuritis.....	...	...	1	...	...	1	...	...	...	...	1	1	2
Paralysis agitans.....	...	...	...	...	...	...	1	...	...	...	1	...	1
Hydrophobia.....	...	...	...	...	...	...	1	...	...	...	1	...	1
Tuberculosis.....	...	...	1	...	2	1	3	...	...	...	6	1	7
Typhoid fever.....	1	...	...	...	...	...	...	...	...	...	1	...	1
Jaundice.....	...	...	...	...	...	...	...	1	...	...	...	1	1
Pneumonia.....	...	...	...	...	...	...	3	1	...	...	3	1	4
Pernicious anaemia..	...	...	1	...	...	...	...	1	...	...	...	2	2
Chlorosis.....	...	...	...	...	...	...	...	1	...	...	...	1	1
Septicaemia.....	...	...	...	...	...	...	...	1	...	...	...	1	1
Gastro-enteritis.....	...	...	...	...	...	...	1	...	...	...	1	...	1
Fracture of skull....	...	...	...	...	...	...	4	...	...	...	4	...	4
Multiple fibromatosis.	...	...	...	...	...	...	...	1	...	...	...	1	1
Malingering.....	...	...	...	...	1	...	...	...	...	...	1	...	1
No diagnosis.....	...	...	...	...	...	...	...	...	...	...	15	11	26
Totals.....	277	114	367	248	340	328	94	50	51	6	1098	757	1855

The number of admissions is greater than in any year since the opening of the Pavilion. It need not be assumed that there are more mental cases in the community, but rather a growing knowledge and appreciation of the purposes of this department and of the character of its work. As experience accumulates, these become more definite. The original intent was establishment of a building where patients might be detained pending legal commitment to an institution for the insane, or might be held for observation to determine the necessity of commitment. That many would be enabled to return home after a short period was anticipated, but expectation that the majority of cases would result so fortunately was beyond the most extravagant hope. Yet such has proved the fact, and each year has brought added emphasis to the importance and helpfulness of prompt hospital treatment of mental affections. This establishes a most valuable truth, for the world at large has not yet divested itself of the feeling of mystery and superstition associated with manifestations of a disordered mind, and many unique methods of cure are proposed and attempted. These are based principally upon mental suggestion, that is to say, upon effort to divert or control the current of thought. They assume susceptibility of the mind to external impressions, which is natural in health, and ignore the presence of disease, through which the mind is made incapable of adjusting external impressions, and is the victim of disordered subjective activities.

Prominent among the mental cures of the present day are Christian Science, "Psychopathology," "The New Thought" and the so-called "Emmanuel Movement." The basis of these methods is an appeal to faith, although a form of religion which ignores physical laws seems almost sacrilegious, yet physicians of standing have been found who countenance such therapeutic methods. They are not to be regarded as novel, for in the days of monasteries, the cure of the sick was relegated to the religious orders. Modern scientific medicine had its origin in the separation of the two professions, and the introduction of the priest at this time, if temporarily accepted, is to be regarded as a step backward, or an incident in the rotation of events contributing to the repetition of history.

In the light of these vagaries of practice, the Albany Hospital may be regarded as having rendered a distinct service in estab-

lishing a department upon the definite and unassailable thesis that people with mental disease are sick and in need of the treatment to be given by a general hospital, under the direction of physicians and with the applications of the principles of medicine. The nineteen hundred patients who have passed through Pavilion F are a conclusive demonstration of the close relation between mental and physical ills. Times and men, however, justify reiteration of the ancient axiom: *Mens sana in corpore sano*, and this might be appropriately emblazoned over our doors that all who run may read.

The eight years of the existence of Pavilion F have been in a period of great activity in the study of mental diseases. Beside the religious theories above mentioned there has been a general movement of investigation, with an enormous increase in the current literature. Many ideas have been suggested and abandoned, and each new suggestion is received with enthusiasm, only to fall under the tests of universal scrutiny. No fault should be found with this, were it not for the misleading general impression left upon the public at large. Perhaps the most flagrant instance of this embarrassment has been the invention of a complicated and obscure nomenclature, in which each man has been a law unto himself. Following a German authority, American alienists have adopted new names for old diseases, and the result has been an ill-understood and confusing terminology. There has been no general agreement, and a distracting lack of settled opinion is revealed. We have awaited in vain some discovery to justify an amendment to the classification adopted at the opening of the Pavilion, in which simplicity was sought, the object being to differentiate, as far as circumstances would permit, the groups of patients who might recover, from those whose mental defect is permanent, and to so emphasize the combinations of symptoms in each individual patient as to assist the nurses in understanding their acts and needs.

Some advances of value have been made in scientific medicine, and these have been utilized. The examination of the cerebrospinal fluid assists in the differentiation of certain diseases, as the various forms of meningitis, and routine analysis of the excretions has proved valuable, as throwing light upon the morbid processes of the body. But here physiological chemistry has its limitations. Patients who make the best recoveries are those

whose vital energy has been strained beyond endurance, and the result is disturbance of function with accumulation of waste products and consequent poisoning of the nervous system. Therapeutic measures are directed to the removal of harmful agents, and the restoration of normal activities. Just what the physical agents and processes are is still unknown, but we are fortunate in ability to counteract them. The measures adopted are largely dependent upon proper feeding and skilled nursing. Mental disorders of this class are in reality forms of delirium, and the methods of management and nursing used in fevers may be successfully adopted. In a report of Pavilion F of several years ago emphasis was placed upon the use of normal salt solution, and resort to this therapeutic agent has been frequently given. The injection into the large intestine of normal saline has proved very effective, and one patient of the last year undoubtedly owes her life and her reason to subcutaneous injections continued during a critical period of delirium and exhaustion.

A medical writer,* studying the results obtained in Pavilion F, and a similar institution in Glasgow, comments upon the discrepancy in the number of patients discharged recovered and improved respectively. It appears that the greater number of patients are discharged recovered from the Glasgow institution,

* DR. C. A. DREW, "Impressions of Some Asylums in Scotland," *American Journal of Insanity*, April, 1910:

"In 'Pavilion F' of the Albany (N. Y.) Hospital there were admitted 784 mental cases from February 18, 1902, to February 28, 1906, of whom 211 were discharged recovered and 244 discharged improved. Here we may note that those discharged as 'improved' exceeded those discharged as 'recovered,' in marked contrast to the statistics of the Scotland Observation Hospital, while the sum of those discharged recovered and those discharged improved (455) equalled 58 per cent of the number admitted. We judge from their respective reports that the types of cases admitted to the Scottish and New York observation hospitals are not very different; alcoholic cases were most numerous in each observation hospital, with a depressive form of alienation a close second as to numbers, Paretics and epileptics were frequently admitted to both hospitals. It seems to us probable that the relatively larger proportion 'recovered' from the Scottish hospital and the relatively larger proportion 'improved' from the New York hospital represent the respective viewpoints of the individual physicians who pass judgment on the mental condition of those discharged."

whereas from Pavilion F, the majority are discharged improved. The idea suggested has led to an investigation which reveals more definitely the work done here. It appears that many patients are received because of the development of symptoms which cannot be met at home, as states of delirium and delusion. It has been the practice to encourage the attendance and visitation of the family or other responsible friends, and the experience has proved instructive to them. As patients pass out of the active stage of disease, it has been found that departure from the hospital is a source of encouragement, and convalescence is promoted. It has been the more readily urged as the family are informed as to the general management and conduct of the cases, and may prevent relapse or recurrence. Patients discharged as improved have gone on to complete recovery after leaving the hospital. As this situation is critically analyzed, it is established that the Pavilion performs a certain duty during the course of the disease, and that it is not always necessary that the patient should remain throughout the attack.

DISCHARGES.

Of the two hundred and seventy-four patients discharged, forty-four recovered and eighty-seven were improved. The percentage of cases distinctly benefited is forty-six. Since the opening of the Pavilion the percentage of cases discharged as recovered and improved has been fifty-four. One hundred and twenty patients were discharged unimproved, and seventeen died. The causes of death were exhaustion of acute alcoholic delirium, one; multiple neuritis and tuberculosis, one; arthritis deformans and tuberculosis, one; tuberculosis, two; pneumonia, one; organic brain disease, three; uraemia, two; epilepsy, one; suicide, one; and exhaustion following injuries and surgical conditions, four.

MEDICAL INSTRUCTION.

Not the least important function of Pavilion F is the instruction of medical students. Medical colleges have long been criticised for neglect in providing instruction in mental diseases, and, so far as is known, that is the first institution in the United States to offer a systematic bed-side course. The students of the senior class of the Albany Medical College attend the wards

every Monday afternoon during the session. In groups of two or three, they examine patients for an hour, following an outline covering both the mental and physical aspects of the case. A section of the class then assembles for a second hour, and reports of the examinations and conclusions are submitted for discussion, in which all take part. Frequently the patient is present and participates in the argument. The system thus followed is that adopted in other branches of medical teaching, and conforms with accepted plans. The advantages are many: the close analysis gives a more accurate conception of the symptoms; the patients usually accept the interview and are not infrequently benefited by the frank analysis of symptoms if convalescence has begun; and the students have the great advantage of observing from week to week the evolution of the disease.

MENTAL CASES IN GENERAL HOSPITALS.

The establishment of Pavilion F as a ward for mental cases in connection with a general hospital was a departure from existing plans, and as such has received wide comment. That this should have been universally favorable is a matter for self-gratulation, and that the same idea has been generally advocated may be taken as indicative of sincerest approval. It is not out of place at this time to submit to the Board of Governors and for the information of the profession interested in hospital work a few of the comments, which, as they for the most part appear in medical periodicals, are not always available outside of the medical profession. These comments, moreover, are instructive, and from the observations made upon the reports of the Pavilion and visitation by competent authorities are derived many hints of value which may well be absorbed into the general plan of administration. These comments seem also to furnish sufficient confirmation of the wisdom of the Governors in creating this department of your hospital.

In general, the States of Pennsylvania and Massachusetts urge this duty upon city hospitals, and the Legislature of the State of New York, at its last session, enacted a law safeguarding the committed insane, and recognizing the claims of persons threatened with insanity in the following definite exception:

"This section shall not apply to a public general hospital making provision in a pavilion or special wards for the care, nursing and observa-

tion or temporary detention of alleged insane patients, or patients pending commitment to a state hospital or an institution licensed by the state commission in lunacy."

The Johns Hopkins Hospital at Baltimore is the recipient of a most munificent gift for the erection and administration of a pavilion for mental diseases, upon the grounds of the hospital and under its immediate supervision.

From the numerous comments upon Pavilion F and the advisability of provision of this kind, the following extracts are submitted:

Journal of Mental Science, London, January, 1908: "Dr. Clouston is indefatigable. He once more appeals to the charitable public in the columns of the *Scotsman*, for the establishment of wards in the Edinburgh Royal Infirmary for the treatment of incipient insanity. * * * It would appear that the success of the special department of the Albany Hospital in the State of New York and the special wards established in Glasgow has been undoubted. The former is in contact with a general hospital and has all the advantages of such a connection."

Boston Medical and Surgical Journal, January 2, 1908: "There are, moreover, frequent cases of transient or obscure mental disturbance which may quickly clear up or be arrested in development and thus escape treatment in an insane hospital. An observation hospital for the temporary care of such cases, properly equipped and provided with a competent medical and nursing staff, would be invaluable. Similar establishments have long been in successful operation in New York City, Albany and elsewhere in this country, and in many places abroad."

The Springfield Republican, January 24, 1908: "Incipient states of insanity can best be watched and treated in a general hospital, when absence from home is for any reason indicated as essential. To this disposal of incipient cases, which has for some years been urged, there is often objection on the part of the authorities in general hospitals. But these objections can be largely overcome by providing a separate ward or pavilion, as in the Albany Hospital, for the reception of insane patients, or cases tending toward pronounced insanity."

MR. H. ADDINGTON BRUCE, in the *Boston Weekly Transcript, June 12, 1908:* "The closest approach to the European Clinic to be found in the United States is the so-called Pavilion F of the Albany General Hospital. This has been in existence less than ten years, but it has already demonstrated its worth both from the curative point of view and in the direction of promoting the study of psychiatry as an essential part of every physician's education."

DR. A. R. URQUHART, Perth, Scotland, in *Journal of Mental Science*, April, 1909: "A pavilion has been erected attached to the Albany Hospital, New York State, where great activity has been manifested and notable results have been gained. The plan of the pavilion is much too complicated in my opinion: but it is in the American manner, and no doubt adapted to the American climate and ideals."

DR. ERIC SINCLAIR, *Inspector General of the Insane, New South Wales*: Presidential Address before the Section of Neurology and Psychiatry at the Australian Medical Congress, 1908: Classifying the plan at Albany with that at Glasgow and some German towns, Dr. Sinclair says: "It was hoped that the larger general hospitals, following the example of other countries, would open a mental ward, so that suitable cases could be treated without requiring to be certified and sent to a hospital for the insane."

DR. WHITEFIELD N. THOMPSON, *Yale Medical Journal*, December, 1909: "Hospitals should have special wards, isolated from the general wards, under the care of specialists and well trained nurses, for the care of such cases. The case of Pavilion F in Albany Hospital is a notable example of the amount of good to be done by such methods."

New York Medical Journal, January 29, 1910: "Hospital wards for mental cases are already provided in Albany and Rochester and their establishment is under consideration in other places; moreover, the conditions in the city of New York are satisfactory. Extension of such provision means not only extension of humane care of the insane, but earlier treatment, and there is no phase of the treatment and prevention of mental disease more important than this."

American Journal of Insanity, January, 1910: "It is evident that the true mission of the psychopathic ward of a general hospital is to provide speedy treatment for the first-named class of cases—the acute psychoses—and that it is of little service to place patients of the second class in general hospital wards. They should rather go at once to regularly organized institutions for the insane. While it is evident in the case of the former class that miracles cannot now be expected in behalf of the insane, even in general hospital wards, it is equally evident that patients suffering from acute psychoses should be given an opportunity to recover in hospital wards and thus escape the stigma which may apply to them if they are legally committed as insane to special hospitals. * * * The work which Dr. Mosher has done in connection with the Albany Hospital has attracted wide attention at home and abroad and has given rise to similar movements elsewhere. It is not too much to predict that it may eventually lead to a widespread change of policy in the treatment of the acute psychoses. The pioneer labor of Dr. Mosher has been of the utmost value and it is gratifying to observe that the Governors of the Albany Hospital have given hearty co-operation."

FRANK H. MASON, *Consul-General, Berlin, Germany, Official Report, April 8, 1905*: "Thus constructed, equipped and administered the modern psychiatric clinic in Germany meets and fulfils two fundamental needs that exist in greater or less degree in every city or large town in the United States, namely, that of better facilities for the skillful treatment, care, and possible cure of cases of incipient and acute insanity; and, secondly, adequate provision for instruction in treatment and in the investigation of practical problems upon the solution of which must depend the arrest of increasing insanity among the people of the State. Its inestimable service to the community is that it provides for saving an indefinite but considerable percentage of the victims of incipient mental disease, and restores them to lives of usefulness, instead of leaving them to degenerate into a menace to society and a burden to the State. It provides the most consummate examination and treatment at a stage of the disease when there is the most chance of averting or arresting an attack of real insanity. It detects and takes timely charge of the smaller but important class of patients who without the knowledge of their friends are on the border line of insanity, and liable at any time to become suddenly dangerous to themselves or others.

"Its beneficent function is the prompt application of every known resource of detection and prevention to the whole insidious group of mental diseases which has become a penalty of the intense, over-wrought life of modern society, or are induced by poverty, self-indulgence, or inherited tendencies. Public benevolence and private philanthropy can fulfil no higher or more valuable purpose then to bring the ultimate resources of science to the support of a cause like this."

DR. L. VERNON BRIGGS, *Boston Medical and Surgical Journal, September 6, 1906*: "It is certainly safe to predict that within five years observation wards will be connected with every large general hospital in our cities, unless the cities provide psychopathic hospitals for the early cases. The trend of opinion is in this direction, and there is a strong under-current working which cannot be turned back."

DR. JOHN B. CHAPIN, *Annual Report of the Department for the Insane, Pennsylvania Hospital, 1909*: "The recognition of insanity as a disease or disorder of the human mind is by no means universal. It cannot in all its manifestations be treated in the wards of a general hospital, as the patient is not always co-operative, is excitable or noisy, or may not submit to detention or deprivation of personal liberty. In a pavilion (F) of the Albany Hospital can be observed what may be done and has been done by a general hospital in the treatment of nervous cases and incipient cases of mental disease. The power of detention is only granted through a legal proceeding. That the detention is often essential for the welfare and safety of the patient is not questioned and is acquiesced in because it is a statutory requirement. Patients may be taken to a general hospital in a state of unconsciousness or in a state of delirium without any legal proceeding, but a patient in a state of

acute delirious mania, or in a state of stuporous melancholia or other condition of mental disease, cannot be admitted to a hospital for the insane without some legal proceeding. The discrimination is anomalous, yet it is noticeable that relatives do not hesitate and delay because of publicity, lest it cloud the business capacity of a relative, or bring some stigma upon the family."

DR. J. W. SPRINGTHORPE, *Intercolonial Medical Journal, Melbourne, April 20, 1902*: "Most of the advantages of such hospital treatment require simply to be stated to be recognized and admitted:

"(1) There is no necessity to wait until some unfortunate accident, lache, or crime necessitates the tardily written certificate. Treatment is thus available much earlier than usual—a point, the importance of which to the patient, to his friends, and to the community can scarcely be over-estimated.

"(2) It places 'border land' and early cases under the same therapeutic conditions that have been found efficacious against the kindred hysteria, cerebraesthesia, and bodily disease generally, and it gives the patient greater opportunity of having the frequent co-existing or causative bodily disease properly and promptly attended to.

"(3) It does away with the false distinction between mental and bodily disease, and it altogether avoids the stigma and disgrace attaching to 'lunatic' and 'asylum.'

"(4) There is no signing of certificates with its, at times, serious sequelae to both patients and doctors, and the natural convalescing ground, the home, is much earlier and more readily available."

It is thus to be seen that the work now being done in Pavilion F not only fulfils the most exacting requirements of scientific progress, but is also justified on the larger and more sentimental basis of humanity.

THE CONDITION OF THE PROPERTY.

During the year the second story, the ward for men, was renovated as completing the work begun during the preceding year on the ward for women patients. The walls were painted and floors and furniture varnished, so that there has been no falling off in repairs.

ENDOWMENT.

The small endowment fund remains as before. It is to be hoped that increase in the hospital resources will soon provide for the maintenance of indigent patients beyond the demand upon the public funds. This need is particularly manifest in mental

cases, many of whom are the victims of privation and want. Restoration of mental health often follows the relief of physical distress, and here lies a particularly responsive opportunity to the assistance given by the charitably disposed. The removal of patients who are passing out of the acute attacks into a state of convalescence is unfortunate, and acts unfavorably; yet this is of frequent occurrence, and limits the usefulness of the Pavilion, and is a painful experience when it is known that the slight cost of a few weeks' care will secure the return of health.

FINANCIAL STATEMENT.

Received from public patients.....	\$1,129 00
Received from private patients.....	5,629 63
	<hr/>
Total	\$6,758 63
	<hr/> <hr/>

The number of day's treatment.....	5,468
The average income for each patient per week.....	\$8 65

ACKNOWLEDGMENT.

It is pleasant again to record the faithful and acceptable services of the nurses. Their duties are often unpleasant and always attended by heavy responsibility, perhaps to greater extent than in any other department of the hospital. Much depends upon the toleration and good-will with which they meet the demands upon them, and there has been no occasion for complaint of either the work or the spirit in which it is done.

The daily operation of the Pavilion rests largely upon its relation with the public officials of the city and county. That these have been pleasant throughout has been most gratifying, and in no small measure has contributed to successful administration. To the Commissioner of Charities and Corrections, Hon. William H. Storrs, we are under repeated obligation for his co-operation and intelligent appreciation of the problems involved.

The personal interest of our friends has been abundantly manifested. Shortly after the Pavilion was opened a book-case and books were presented to the men's ward by Dr. Henry Hun, and a similar gift was made to the women's ward by Mr. and Mrs.

P. K. Dederick, Jr. These have proved most serviceable and are in constant use. Subscriptions to the *Argus*, *Munsey's Magazine*, *The Argosy*, *The Strand Magazine*, *The Ladies' Home Journal* and *Pearson's Magazine* have been continued by Mr. and Mrs. P. K. Dederick, Jr., and subscription to *McClure's Magazine* has been given by a "friend."

Mrs. Martin H. Glynn has given ample reassurance of her continued interest in the diversion and entertainment of patients, and during the year has presented to the library thirty-four books, mainly fiction, of a character to beguile the tedium of the day. By the courtesy of Mrs. Julia F. Bryant the ward was appropriately and prettily decorated during the holiday season, and to the same friend we are indebted for cut flowers. From Mrs. Fred Ham have been received magazines and a reclining chair, from Mrs. John Robinson has been received a hammock, and from Mrs. J. W. Tillinghast and Mrs. Frederick Tillinghast and Mrs. J. Townsend Lansing have been received packages of magazines.

Editorial

The profession of a medical man in a small provincial town is not often one which gives to its owner in early life a large income. Perhaps in no career has a man to work harder for what he earns, or to do more work without earning anything. It has sometimes seemed to me as though the young doctors and the old doctors had agreed to divide between them the different results of their profession,—the young doctors doing all the work and the old doctors taking all the money. If this be so it may account for that appearance of premature gravity which is borne by so many of the medical profession. Under such an arrangement a man may be excused for a desire to put away childish things very early in life.

ANTHONY TROLLOPE.

The Small House at Allington.



The Lactic
Acid Bacillus
and Melan-

The relations of digestive disturbances to disorders of mental function have long been recognized, but the occurrence of outspoken attacks of mental cholia. disease has not until recent years been attributed to such sources. It is true that predisposition is a large factor, but

predisposition must be considered in every form of disease; and that it is more prominent in one class of affections than another is no reason why the removal of exciting causes should not justify expectation of recovery of health.

Dr. J. George Porter Phillips has contributed to the *Journal of Mental Science* for July, the results of some investigations in the treatment of melancholia by the lactic acid bacillus, and he states very truly that in attacks "Ranging from a mild attack of depression to a severe case of melancholia one finds the hub of the disturbance centring itself in the alimentary canal. For this auto-intoxication free purgation and administration of chemical antiseptics will afford relief but are not satisfactory. An item of treatment which pre-eminently suggests itself is one which will not only inhibit the growth of the proteolytic organisms, the common cause of the abnormal putrefaction and consequent auto-intoxication, but will also obtain a biological intestinal antiseptis. By the ingestion of vigorous cultures of the lactic acid bacillus under suitable conditions of diet one is able to produce this desired inhibition of these putrefactive processes. That this takes place is proved experimentally by the diminution of the daily urinary excretion of the ethereal sulphates and by alteration in the character and quantity of the stools. There is also a decrease in the number of the Gram-negative organisms and a great increase in the Gram-positive. This process of inhibition is probably due to the lactic acid formed in the intestine in a nascent state, this being dependent on the fact that the growth of putrefactive organisms which grow favourably in an alkaline medium is arrested by an acid-producing organism in a saccharine medium."

The strain used by Dr. Phillips in the treatment of his patient was the long bacillus of Massol, and it was noted that this variety, at certain times, assumes the strepto-bacillary form, and occasionally shows the metachromatic staining with methylene blue.

The bacilli may be administered either in solid form or in liquid form, the former made up in tablets, powder or gelatine whey; and the latter in bouillon and curdled milk. The lactic gelatine whey when carefully and freshly prepared is regarded as the best method of administration, especially to patients with melancholia who refuse milk. The lactose and maltose whey is

prepared by adding one and a half cubic centimeters, the hydrochloric acid is added to each liter of milk, and then this is boiled carefully for five minutes. The whey is then filtered through a piece of fine mesh muslin, and to each one hundred cubic centimeters is added two grams of the sugar lactose or maltose.

There are several technical difficulties to be overcome in the preparation of the diet, and special arrangements need to be made. It is interesting to note, however, that under certain conditions of administration beneficial results are attained. Usually from about the fourth or fifth day the patient puts on weight daily, and one case is reported by Dr. Phillips in which the weight increased nine pounds in nine days. The weekly increase varied from one to five pounds, and the total increase ranged from twelve to twenty-eight pounds. These changes in physical health were accompanied by marked improvement in the mental state of the patients.

It appears that the beneficial effect is due to the diminution of the amount of toxins absorbed from the intestinal tract and to the promotion of rapid and easy assimilation of food material. Dr. Phillips believes that this method of alimentation shortens the duration of illness, increases the chances of recovery, and justifies the statement that the severity of the disease is mitigated by the early treatment with the lactic bacillus.

Scientific Review

NEW METHODS FOR CONCENTRATING TUBERCLE BACILLI IN SPUTUM.

(Concluded from page 538)

II.

THE LIGROIN METHOD.

This method, devised by Lange and Nitsche, (1) depends upon the difference in "surface-tension" between tubercle bacilli, and watery solutions. Tubercle bacilli, in virtue of their fatty constituents, have a greater affinity for oily hydrocarbons, such as benzol or xylol than they do for watery media. This property is not possessed by the bacteria which are not acid fast and

according to Lange and Nitsche it is possible to separate tubercle bacilli almost quantitatively in this way from watery solutions containing both.

They consider the various hydrocarbons more or less suitable for the purpose. The specific gravity should be less than one, but not too low or the hydrocarbon will rise too quickly to the surface and not remain long enough in contact with the relatively heavy tubercle bacilli. The boiling point also should not be too high so that evaporation may take place readily when slides are being prepared. After considerable experimentation, ligroin was chosen as most suitable, being also readily obtainable (in Germany) and cheap. Slight differences in samples purchased from the German druggists were not considered important. The boiling point lay between 90° and 120° . The specific gravity was about 0.736.

The following method was devised for concentrating the tubercle bacilli in sputum by the use of ligroin:

1. To 5 c. c. of sputum, 50 c. c. of normal potassium hydrate solution are added. The mixture is left standing at room temperature or a shorter time in the incubator, until it is completely homogenized. In the mean time it should be shaken frequently.
2. 50 c. c. of tap water are added and the mixture is again shaken.
3. 2 c. c. of ligroin are added and the mixture shaken vigorously until a thick emulsion is obtained.
4. The entire material is warmed at $60-65^{\circ}$ on a water bath, until separation of the hydrocarbon takes place.
5. As many loopfuls (Öse) as desired are removed from the boundary zone directly beneath the ligroin and placed on the same spot on a warmed slide.
6. Fixation and staining are accomplished by the ordinary methods.

The method thus consists of preliminary homogenization of the sputum by means of an alkali and subsequent concentration and separation of the tubercle bacilli from the resulting watery suspension by means of the ligroin which rises to the top and forms a clear layer. By this method, Lange and Nitsche report that specimens of sputum which contained only a few bacilli by the ordinary method, often showed hundreds of bacilli.

Various workers have substituted antiformin for the potassium hydrate used by Lange and Nitsche to secure homogenization.

Haserodt (2) adds to the sputum 4 to 5 times its volume of

5 per cent antiformin and after shaking the mixture vigorously leaves it 24 hours at room temperature or about 10 hours at 37°. The resulting sediment is then mixed with 1 to 3 c. c. of ligroin and shaken until a thick emulsion results. The vessel containing it is then left for about 10 minutes in the water bath at 60° and specimens are removed from beneath the ligroin layer as above described.

Bernhardt (3) adds 20 c. c. of a 20 per cent antiformin solution to 5 c. c. of sputum. After the homogenization which takes place in a few hours, he adds 25 c. c. of spring water, and then enough ligroin to secure a layer 3 to 5 mm. thick. The remaining steps of the methods are the same as in Haserodt's method.

These authors think the advantage given by their modification (use of antiformin) is better adherence of the specimen to the slide. Goerres (4) does not think this is obtained. Goerres compared the antiformin method described last month with the antiformin-ligroin methods used by Haserodt and Bernhardt. In twenty cases the ligroin method seemed to give better results, failing in no case to show marked increase of the tubercle bacilli present in the original specimen, while the simple antiformin method failed in some cases even to show bacilli at all, although they had been found in the original sputum. When, however, 85 additional tests were made, the simple antiformin method gave better results than the ligroin method. It is necessary to remove a large number of loopfuls or öse (30 or more) from the boundary zone and whatever bacilli are left spread themselves over the entire layer. To concentrate them, he uses a flask narrowed at the top to a diameter of about 1 cm. and adds enough water to the mixture so that the ligroin layer will form at that part of the flask. This of course makes a deeper ligroin layer and increases the danger of losing bacilli as the platinum loop is withdrawn through the ligroin, and to obviate this drawback he first carefully removes the greater portion of the ligroin by means of a pipette.

Others who have used the ligroin method with satisfactory results, employing antiformin first for homogenization, are, Schulte, Kinyoun and Finkelstein.

Schulte (5) prefers the simple antiformin method, except when a centrifuge is not available.

Finkelstein (6) thinks that the alkali (normal potassium hy-

drate solution) used by Lange and Nitsche destroys the tubercle bacilli and for that reason prefers to use antiformin for homogenization. He considers the antiformin-ligroin method inferior to the simple antiformin method.

Kinyoun (8) has simplified the ligroin method by adding about 3 c. c. of antiformin and 1 c. c. of ligroin (of specific gravity 0.715—0.720) to the sputum and shaking the mixture $\frac{1}{4}$ hour. A small portion is placed in a centrifuge tube and centrifuged so that the ligroin rises to the top. The tubercle bacilli are sought in the boundary zone.

THE SODIUM CHLORIDE METHOD.

Huzella (7) claims that ligroin injures the staining properties of the tubercle bacilli, by removing the acid fast substance and that it kills the bacilli after 20 to 30 minutes, rendering the specimen useless for animal inoculation. He has devised the following method.

1. Homogenization with 15 to 50 per cent of antiformin which takes place according to the consistency of the sputum within $\frac{1}{2}$ to 5 hours. 2. Concentration of the bacilli at the top of the somewhat diluted (with water) homogenized sputum, by the addition to it of salt (NaCl.) to saturation, thus increasing its specific gravity as compared with that of the tubercle bacillus. The concentration is best carried out at 60° on a water bath.

The advantages he claims for his method are its simplicity, little apparatus being required, its freedom from injurious effects upon the tubercle bacillus and the fact that the test can be interrupted at any stage without interfering with its subsequent completion. A rather elaborate modification is described to be used when large amounts of sputum are to be examined. No reports of tests by this method are given.

PETROLEUM-ETHER METHOD.

Bogason (9) has worked with Lange and Nitsche's method but prefers a method of his own, in which petroleum-ether with a specific gravity of about 0.65 is substituted for ligroin of which the specific gravity is 0.735. In his criticism of the ligroin method, he makes the following statements. 1. That the fear expressed by Lange and Nitsche that a hydrocarbon of lighter specific

gravity than ligroin would rise too quickly from a watery solution containing tubercle bacilli and would therefore, slip by and fail to attach itself to many of the tubercle bacilli, is unfounded. 2. That the alkali used for securing homogenization is too strong. 3. That the proportion of homogenized fluid to ligroin is too great (105 to 2). 4. That the area over which the tubercle bacilli are spread is too great and 5. That the method takes too much time. He gives the following directions for carrying out his method.

1. 2 c. c. of sputum are mixed in a test tube with 6 c. c. of 0.25 per cent sodium hydrate solution, and warmed, being meanwhile well shaken. If the sputum is not dissolved, cool the mixture and shake vigorously. If it is still not dissolved, add more soda solution. More than 10 to 11 c. c. is never necessary. After cooling, the mixture is placed in a centrifuge tube designed by the author, which is narrow at the top. 2. Add 2 c. c. of petroleum-ether, cork the tube and shake vigorously for about one minute. 3. Centrifuge very slowly, preferably in a hand centrifuge for one minute. 4. With a pipette remove the deepest portion of the petroleum-ether layer. 5. Transfer to a slide and evaporate quickly above the flame and avoid overheating. Place succeeding specimens on the same spot on the slide.

The method altogether is said to take about twenty minutes to complete. The author opposes to the objections that only a relatively small amount of sputum is used (2 c. c.), the statement that even repetition of the test with several specimens does not consume as much time as most other methods.

ETHER-ACETONE METHOD.

Koslow (11) has proposed the following ether-acetone method: The sputum is homogenized by shaking with pure antiformin for 5 minutes. The amount of antiformin necessary varies with the consistency of the sputum. The homogenized mixture is diluted with distilled water. (10 c. c. of water to 1 c. c. of antiformin.) An amount of a mixture of equal parts of acetone and ether of volume equal to the water used is then added and the entire mixture is shaken for 2 or 3 seconds and allowed to separate into layers. The tubercle bacilli are found in the middle layer. The value of the method has not been demonstrated by other workers. It is probable that the reagents used interfere

to a greater or less degree, according to the time they are allowed to act, with the staining of the tubercle bacilli.

ELLERMAN-ERLANDSEN; "DOUBLE METHOD."

Ellerman and Erlandsen (10) have recommended the following method:

1. 1 volume of sputum (10 to 15 c. c.) is mixed in a corked measuring glass with $\frac{1}{2}$ the volume of 0.6 per cent solution of sodium carbonate (Na_2CO_3). The mixture is allowed to stand 24 hours at 37° in the incubator. 2. The greater part of the supernatant fluid is poured off and the sediment is centrifuged in a graduated centrifuge glass. The supernatant fluid is poured off. 3. 4 volumes of a 0.25 per cent sodium hydrate solution are added to 1 volume of sediment. After careful stirring, the mixture is boiled. 4. Centrifuge.

They have carefully compared their results with this method (using numerical tests and calculating their mean error) with those obtained by the use of several of the older methods and claim that it gives better results than any of them. The first two steps may be used without the third and fourth and this shorter method is spoken of as the "Autodigestion" method.

In their preliminary studies some interesting points were brought out. One per cent sodium hydrate was found to have an injurious effect upon the staining properties of most tubercle bacilli. A few however ($\frac{1}{347}$ of the original number) remained well stained. This variability in the resistance of individual bacilli to alkalies should be kept in mind when one tries to determine the effect of reagents on the staining properties of the bacilli and numerical tests of their action should be made. It is desirable that a certain amount of sediment should be present in the specimen as is shown by the following facts. Centrifuged mixtures of tubercle bacilli emulsions and distilled water did not give as many bacilli as these same mixtures when pus cells were added to them. When distilled water alone was used, only about 20 per cent of the tubercle bacilli in the emulsion were carried to the bottom, on account of the friction between the bacilli and the water but with the help of sediment as high as 76 per cent could be recovered. The specific gravity of solutions containing tubercle bacilli and also the viscosity were found to have an influence on sedimentation, hindering it if too high. Yet neither

had as much effect upon it as the presence of undissolved sediment. When the volume of this sediment and the amount of fluid remain the same and the centrifuging is uniform, the number of bacilli thrown to the bottom is proportional to the concentration of bacilli in the mixture. Dilution of the specimen therefore lessens the percentage thrown to the bottom and is a disadvantage.

Kogel (12) has tested the Ellerman-Erlandsen "double method" in a series of 105 sputum specimens. 21 of these were positive by the ordinary methods. 8 more were positive by the "double method." Of another series of 84, 31 per cent were positive by the "double method," although in former series when it was not employed, the percentage of positives varied from 11 to 20 per cent. He considers that the claim of the originators of the method that 15 to 20 times as many bacilli can be found in a slide when it is used as would be found in ordinary preparations, is substantiated. While he admits that the method is time consuming, sometimes taking 48 hours and that the odor accompanying "autodigestion" is often very disagreeable, he believes much time is saved by the greater readiness with which bacilli are found in the final preparations, thus obviating the necessity of prolonged search over the separate slides.

Bierrotte (13) has compared the antiformin-ligroin method with the "double method" of Ellerman and Erlandsen. Of 6,250 specimens of sputum examined, 1,500 contained tubercle bacilli. 97 of the positive results were obtained by the antiformin method. Studies with the Ellerman-Erlandsen method showed that it gave practically as good results, and in some instances the increase in the number of tubercle bacilli present, was greater by this method. He suggests the following combination of the Ellerman-Erlandsen and ligroin methods.

1. Autodigestion according to the method of Ellerman and Erlandsen (see above) 24 to 48 hours at 37°. 2. Pour off the supernatant fluid, shake up the remainder with 1 c. c. to 2 c. c. of ligroin. Keep $\frac{1}{4}$ hour at 60°C. in water bath. Remove specimen from boundary zone.

In order to render easier the finding of the bacilli under the microscope, the author adds, especially in the ordinary antiformin-ligroin method, staphylococci from a pure culture to the specimen before staining.

Jørgensen (14) has recently made careful studies of the comparative value of the antiformin-ligroin and of the Ellerman-Erlandsen methods and has come to the conclusion that the last named is the best.

In regard to antiformin methods, he confirms the observation of other workers that the preparation from the antiformin sediment is readily detached from the slide, sometimes during the staining with carbol-fuchsin, sometimes while the stained specimen is being washed with water. He does not find that previous washing of the sediment in the centrifuge tube helps matters much. However if the sediment is neutralized with acetic acid it adheres very well. He accomplishes the neutralization as follows: After centrifuging the homogenized sputum, the antiformin is poured off from the sediment as completely as possible and the acetic acid is added with a small platinum loop, until the reaction to litmus paper is neutral.

The effect of the degree of concentration of the antiformin on the staining qualities of the tubercle bacilli was tested as follows: With 2 per cent antiformin no homogenization of mucoid sputum was obtained even after 24 hours. With 5 per cent antiformin good homogenization was obtained and 13.3 bacilli per field were counted. With 10 per cent antiformin 6.6 bacilli were found but with 20 per cent only 0.9. In muco-purulent expectoration with 5 per cent antiformin, 17.3 bacilli, and with 20 per cent antiformin, 6.1 bacilli per field were found. 100 fields were counted in each preparation. The specimens used were originally free from tubercle bacilli, an emulsion of them being added before homogenization.

No such careful numerical testing of the effects of antiformin on tubercle bacilli has been reported by other authors. *Jørgensen therefore believes that solutions stronger than 5 per cent are unnecessary* and that weaker solutions do not produce sufficient homogenization.

The difference in the number of bacilli obtained in specimens exposed to the action of 5 per cent antiformin 1 hour and 24 hours was not marked, but indicated that the prolonged action of the antiformin did have a somewhat injurious effect upon the staining properties of the bacilli. The greatest number of bacilli per field was found when the sputum and the antiformin were mixed in the proportion of one part of the former to four of the

latter. From these studies, Jörgensen came to the conclusion that the antiformin method should be carried out as follows:

To one volume of sputum four volumes of 6.25 per cent antiformin are added (in order to make the strength of the mixture in antiformin 5 per cent). The mixture is shaken vigorously for about 1 minute and then allowed to stand $\frac{1}{4}$ to $\frac{1}{2}$ hour, until completely homogenized. It is then centrifuged, the sediment is neutralized with acetic acid, and the specimen is fixed and stained by the ordinary methods.

In regard to the hydrocarbon methods of Lange and Nitsche and Bogason already described, Jörgensen found them both inferior to the Ellerman and Erlandsen method or even to the simple centrifuging of homogenized sputum. In 200 fields, an average of 0.2 bacilli per field were found by the ligroin method while 5.6 bacilli per field were obtained by simple centrifuging. As tubercle bacilli were found in both the upper and lower hydrocarbon layers, the specially devised centrifuge tube with narrow neck, devised by Borgason, to diminish the area of boundary zone, is considered of no value. Goerres tube would also be useless.

If the entire supernatant hydrocarbon layer is transferred a drop at a time to the same spot on the slide, and each drop is evaporated by itself, fairly good results can be obtained. The antiformin method as modified by the author, also gives fair results. He believes antiformin should be used with the greatest care when only a few bacilli are present on account of its action on their staining properties. A high power centrifuge is necessary if good results are to be secured.

He thinks that with either of these methods perhaps as satisfactory concentration may be brought about as by the autodigestion method of Ellerman and Erlandsen, that is about a ten-fold increase in bacilli per field. With the "double method" he considers that a twenty to sixty-fold increase may be expected.

Gordman (15) has tried the Ellerman-Erlandsen method in a few cases but considers it too complicated and tedious for routine

CALCIUM CHLORIDE METHOD.

Zahn (16) combines homogenization of the sputum by an alkali with precipitation by means of calcium chloride, as suggested by Moritz. The addition of calcium chloride causes a

precipitation of calcium hydroxide. The precipitate, as it settles, carries the tubercle bacilli down with it.

The sputum is first mixed with the alkali (normal sodium or potassium hydrate), and then normal calcium chloride solution is added. The mixture is shaken, boiled and centrifuged or simply poured through filter paper and the sediment is transferred to a slide and fixed or stained in the ordinary manner. The entire procedure can be carried out within 15 minutes. Marked concentration of bacilli is claimed. Antiformin may be substituted for the alkali used in the first step, 1 to 2 c. c. of normal calcium chloride solution being added to 30 c. c. of a homogenized sputum-antiformin mixture containing about 20 per cent of antiformin.

From the numerous methods mentioned in this and the preceding article, the selection of the most satisfactory for clinical use is difficult. The claims of the Ellerman-Erlandsen "double method" are best supported by careful tests. It is, however, time consuming, sometimes taking 48 hours to complete. The antiformin method, especially in some of its modifications, gives prompt results which are certainly of greater value than those obtained by the usual method of sputum examination. The claims advanced by the originators of the hydrocarbon methods are not fully substantiated by subsequent workers.

These newer methods for concentrating the tubercle bacilli in sputum are, nevertheless, evidences of distinct progress in the early diagnosis of tuberculosis and one of them should be used when sputum examination by the ordinary method gives negative results. The choice will probably lie between the Ellerman-Erlandsen and one of the antiformin methods.

REFERENCES

1. LANGE U. NITSCHKE. Eine neue Methode des Tuberkelbazillen nachweises, *Deutsche medizinische Wochenschrift*, 1909, XXXV, 435.
2. HASERODT. Neue Methoden zum Nachweis von Tuberkelbazillen im Sputum. *hygische Rundschau*, 1909, XIX, 699.
3. BERNHARDT. Ueber die Verwendung von Antiformin und Ligroin für den Nachweis der Tuberkelbazillen im Sputum. *Deutsche medizinische Wochenschrift*, 1909, XXXV 1428.
4. GOERRES. Ueber den Nachweis der Tuberkelbazillen im Sputum mittels der Antiforminmethode. *Zeitschrift für klinische Medizin*, 1910, XX, 86.
5. FINKELSTEIN. Die Neuesten Methoden des bakteriologischen Tuberkelbazillennachweises in verschiedenen pathologischen Exkreten. *Berliner klinische Wochenschrift* 1910, XLVII, 1059.
6. HUZELLA. Der Nachweis sehr spärlicher Mengen von Tuberkelbazillen. *Deutsche medizinische Wochenschrift*, 1910, XXXVI, 932.

8. KINYOUN. An Improved Method of Employing "Antiformin" and Ligroin, in the Examination of Sputum, etc. *Science*, 1909. Report of the 11th Annual Meeting of the Society of American Bacteriologists.

9. BOGASON. Eine Neue Methode zum Nachweis von Tuberkelbazillen im Sputum und im Urin. *Zeitschrift für Tuberkulose*, 1910, XV, 554.

10. ELLERMAN U. ERLANDSEN. Nachweis von Tuberkelbazillen im Sputum. *Zeitschrift für Hygiene und Infektions-Krankheiten*, 1908, LXI, 219.

11. KOGEL. Ueber den Nachweis von Tuberkelbazillen im Sputum nach der Doppel-Methode von Ellerman-Erlandsen. *Deutsche medizinische Wochenschrift*, 1909, XXXV, 2105.

12. BIERROTTE. Vergleichende Untersuchungen ueber den Wert der Antiformin-Ligroin und der Doppel-Methode von Ellerman-Erlandsen zum Nachweis von Tuberkelbazillen im Sputum. *Berliner klinische Wochenschrift*, 1910, XLVII, 877.

13. JORGENSEN. Ueber den Wert verschiedener Homogenisierungs und Sedimentierungsmethod behufs des Nachweises von Tuberkelbazillen im Sputum. *Zeitschrift für Hygiene*, 1910, LXVI, 315.

14. GOODMAN. A Method of Examining Sputa for Tubercle Bacilli. *New York Medical Journal*, 1910, XCII, 27.

15. ZAHN. Ein neues einfaches Anreicherungsverfahren für Tuberkelbazillen. *Münchener medizinische Wochenschrift*, 1910, LIV, 840.

ARTHUR T. LAIRD.

Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF HEALTH, ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, SEPTEMBER, 1910.

Deaths.

Consumption.	19
Typhoid fever	1
Scarlet fever	0
Measles.	0
Whooping-cough.	1
Diphtheria and croup.	1
Grippe.	0
Diarrheal diseases	8
Pneumonia.	4
Broncho-pneumonia.	1
Bright's disease	13
Apoplexy.	4
Cancer.	13
Accidents and violence.	8
Deaths over 70 years.	24
Deaths under one year.	22
<hr/>	
Total deaths	125
Death rate	15.20
Death rate less non-residents.	12.88

Deaths in Institutions.

	Resident	Non-resident
Albany Hospital	7	4
County House	1	5
Homeopathic Hospital	4	1
Public places	0	1
St. Margaret's House.....	0	2
St. Frances De Sayles Orphan Asylum.....	1	0
St. Vincent's Asylum.....	0	0
St. Peter's Hospital.....	6	2
Austin Maternity Hospital.....	1	0
Little Sisters of the Poor.....	1	0
Albany Hospital, Tuberculosis Pavilion.....	4	3
Confederation of Labor.....	0	1
Totals.	25	19
Births.		113
Still births		3

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

In the Bureau of Plumbing, Drainage and Ventilation there were two hundred twenty-one inspections made of which eighty-four were of old houses and one hundred thirty-seven of new houses. There were forty-five iron drains laid, forty-two connections to street sewers, forty-two tile drains, fifty-two cesspools, ninety-five wash basins, one hundred thirty-nine sinks, ninety-seven bath tubs, one hundred five wash trays, one trap hopper, one hundred sixty tank closets, eleven slop hoppers, twenty-eight shower baths. One hundred seventy-one permits were issued, of which one hundred twenty-one were for plumbing and fifty for building purposes. There were forty-two plans submitted of which two were of old buildings and forty of new buildings. One house was tested with blue or red. There were thirty-three water tests. Eighteen houses were examined on complaint and sixty were re-examined. Six complaints were found to be valid and twelve without cause.

BUREAU OF CONTAGIOUS DISEASE.

Cases Reported.

Typhoid fever	13
Scarlet fever	7
Diphtheria and croup.....	12
Chickenpox.	0
Measles.	1
Whooping-cough.	0
Consumption.	37
Total.	70

Contagious Disease in Relation to Public Schools. Deaths.

	D.	S. F.
Public School No. 6.....	1	3
Public School No. 7.....	1	....
Public School No. 11.....	1	....
Public School No. 14.....	....	1
Public School No. 21.....	1	....
Number of days quarantine for diphtheria:		
Longest..... 20	Shortest..... 8	Average..... 15
Number of days quarantine for scarlet fever:		
Longest..... 44	Shortest..... 12	Average..... 28 ³ / ₇
Fumigations:		
Houses..... 29	Rooms.....	103
Cases of diphtheria reported		12
Cases of diphtheria in which antitoxin was used.....		12
Cases of diphtheria in which antitoxin was not used.....		0
Deaths after use of antitoxin.....		1

BENDER LABORATORY REPORT ON TUBERCULOSIS.

Positive.	25
Negative.	28
Failed.	5
Total.	58

TUBERCULOSIS.

Living cases on record September, 1910.....	218
Reported during September, 1910:	
By telephone.	0
By Bender.	0
By card.	29
	29
Dead cases reported by certificate.....	8
	37
	355
Dead cases previously reported.....	10
Dead cases not previously reported.....	8
Duplicates.	1
Recovered.	0
Unaccounted for	2
	21
Living cases on record October 1, 1910.....	334
Total tuberculosis death certificates filed September, 1910.....	18

BUREAU OF PATHOLOGY.

Bender Laboratory Report on Diphtheria.

Initial positive.	11
Initial negative.	40
Release positive.	15
Release negative.	37
Failed.	8
<hr/>	
Total.	111
Test of sputum for tuberculosis:	
Initial positive.	27
Initial negative.	28

MISCELLANEOUS.

Mercantile certificates issued to children.....	80
Factory certificates issued to children.....	33
Children's birth records on file.....	113
Number of written complaints of nuisances.....	37
Privy vaults	6
Plumbing.	13
Other miscellaneous complaints.....	28
Cases assigned to health physicians.....	75
Calls made	145

Medical News

Edited by Arthur J. Bedell, M. D.

ALBANY GUILD FOR THE CARE OF THE SICK.—DEPARTMENT OF VISITING NURSING.—STATISTICS FOR SEPTEMBER, 1910. Number of new cases, 128; *classified as follows*: Dispensary patients receiving home care, 23; district cases reported by health physicians, 10; charity cases reported by other physicians, 41; moderate income patients, 54; old cases still under treatment, 174; total number of cases under nursing care during month, 302. *Classification of diseases for the new cases*: Medical, 50; surgical, 8; gynecological, 0; obstetrical under professional care, mothers, 33, infants, 28; skin, 6; nose and throat, 1; infectious diseases in the medical list, 12; removed to hospital, 12; deaths, 4.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 2; number of students in attendance, 1; number of nurses in attendance, 2; number of patients, 1; visits by attending obstetrician, 1; visits by students, 7; visits by nurses, 9; total number of visits for this department, 17.

Visits of Guild Nurses (all departments): Number of visits with nursing treatment, 1,277; for professional supervisions of convalescent, 246;

total number of visits, 1,523; cases reported to the Guild by two health physicians and forty-four other physicians. Graduate nurses, seven, and pupil nurses, eleven on duty.

Dispensary Report: Number of clinics held, 95; number of new patients, 97; number of old patients, 361; total number of patients, 458. Classification of clinics held: Surgical, 13; eye and ear, 18; nervous, 1; stomach, 1; children's, 14; nose and throat, 6; lung, 16; skin and genito-urinary, 9; medical, 12; gynecological, 8.

UNIVERSITY DAY PROGRAM.—University Day was celebrated in Schenectady Saturday, October 22, when the following program was rendered in the College chapel at 11 A. M.: America; prayer, Rev. Clayton Johnson Potter, Pastor of the First Reformed Church, Schenectady; address of welcome, Rev. Charles Alexander Richmond, D. D. LL.D., Chancellor of Union University; address, The Idea of a University, George W. Kirchwey, LL.D., Dean of the School of Law of Columbia University; Come Now to the Campus, by C. E. Franklin '83; informal addresses, Hon. Alden Chester, Vice-President of the Board of Governors of Union University; Albert Vander Veer, M. D., Ph. D., Regent of the University of the State of New York. The students of the Albany Departments of the University were the guests of the college fraternities at luncheon. At 3 P. M. on the campus Wesleyan and Union played their annual football game, Wesleyan being held to six points.

NEW YORK SKIN AND CANCER HOSPITAL.—The governors of the New York Skin and Cancer Hospital announce that Dr. L. Duncan Bulkley will give a twelfth series of clinical lectures on Diseases of the Skin, in the out-patient hall of the hospital on Wednesday afternoons, from November 2 to December 21, 1910, at 4:15 o'clock. The course will be free to the medical profession.

HEALTH OFFICERS' CONFERENCE.—It has been decided to hold the 1910 Conference of Sanitary Officers of the State of New York at Buffalo on November 15th, 16th and 17th. The sessions will be held in the public hall of the Y. M. C. A. building on Main street, which is accessible to all the hotels.

THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH.—Mr. John D. Rockefeller has presented the institution with an additional gift of \$3,820,000 for its endowment. It is expected by the board of trustees that the work of scientific laboratory research, which, with even a generous endowment, has been necessarily more or less circumscribed, will now be extended to cover the entire medical field.

THIRD DISTRICT BRANCH OF THE STATE MEDICAL SOCIETY.—The Third District Branch of the Medical Society of the State of New York, held its annual meeting in Albany, October 4, 1910. Dr. Mark O'Meara, Kingston, was elected president; Dr. John B. Harvie, Troy, vice-president; Dr.

Henry L. K. Shaw, Albany, secretary, and Dr. Sherwood V. Whitbeck, Hudson, treasurer. The next meeting will be held in Kingston.

THE UNITED STATES CIVIL SERVICE COMMISSION announces an examination, on November 23, 1910, to secure eligibles from which to make certification to fill vacancies as they may occur in the position of physician in the different services.

As an insufficient number of eligibles to meet the needs of the Indian and Isthmian Canal services resulted from the examination held on September 14, qualified persons are urged to enter this examination.

Full information regarding this examination is contained in section 197 of the Manual of Examinations, revised to July 1, 1910.

Applicants must have reached their twentieth birthday, but not their fortieth birthday, on the date of the examination.

Applicants for positions in the Indian service must accompany their applications with a certificate from a reputable physician showing that they are in good health and free from tuberculosis in any and every form.

Men only will be admitted to this examination.

This examination is open to all citizens of the United States who comply with the requirements.

This announcement and the Manual contain all information which is communicated to applicants regarding the scope of the examination, the vacancy or vacancies to be filled, and the qualifications required.

Examination Forms 2 (including the medical certificate) and 375 for the Philippine service, and Form 1312 (including the medical certificate) for the other services.

Applicants should at once apply for a copy of the Manual and the proper forms either to the United States Civil Service Commission, Washington, D. C., or to the secretary of the board of examiners as follows: Post office, Boston, Mass., Philadelphia, Pa., Atlanta, Ga., Cincinnati, Ohio, Chicago, Ill., St. Paul, Minn., Seattle, Wash., San Francisco, Cal.; custom house, New York, N. Y., New Orleans, La.; old custom house, St. Louis, Mo. No application will be accepted unless properly executed and filed with the Commission at Washington. In applying for this examination the exact title, as given at the head of this announcement, should be used in the application.

As examination papers are shipped direct from the Commission to the places of examination, it is necessary that applications be received in ample time to arrange for the examination desired at the place indicated by the applicant. The Commission will therefor arrange to examine any applicant whose application is received in time to permit the shipment of the necessary papers.

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.—A regular meeting of the Medical Society of the County of Schenectady was held at County Court House, Tuesday, October 11 at 8:30 P. M. Scientific program: "A Few Observations Abroad," John H. Collins, M. D., E. MacD. Stanton, M. D. Candidate for election, E. B. Witter, M. D.

NATIONAL HOUSING ASSOCIATION.—A national housing association has recently been organized, with a board of thirty-seven directors representing fifteen states. The president is Mr. Robert L. De Forest, one of the leaders in the movement to establish the Metropolitan Tenement House Department, and its first commissioner; and the secretary is Mr. Lawrence Veiller. Some of the objects of this association are: To improve housing conditions, both urban and suburban; to bring home to every community the importance of right housing conditions and the consequence of bad ones; to study the causes of the drift of population into cities and the methods by which population can be distributed over large areas; to encourage the formation of improved housing associations and to aid in their work; to further the enactment and enforcement of laws calculated to prevent the erection of unit types of dwellings, encourage the erection of proper ones, and induce a reasonable and practicable improvement of older dwellings; to secure reasonable scientific and economic building laws and to aid in defining these from the attacks of adverse interests; to train and equip workers for the various phases of housing reform work.

THE AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY.—The American Academy of Ophthalmology and Otolaryngology held its annual meeting in Cincinnati, September 19-21. The following officers were elected: President, Dr. John J. Kyle, Indianapolis; vice-presidents, Drs. F. Park Lewis, Buffalo, Samuel Iglauer, Cincinnati, Burt R. Shurly, Detroit; secretary, Dr. George F. Suker, Chicago (re-elected), and treasurer, Dr. Secord H. Large, Cleveland. Indianapolis was selected as the place of meeting for next year.

PROTECTION OF EYES OF SAILORS.—A special effort is being made by the Surgeon-General of the Navy to provide for the protection of gun-pointers and other enlisted men whose duties require keen eyesight, and Surgeon Eugene J. Grow has been detailed to the U. S. S. Solace for special duty on this subject. The illumination of fire-rooms, of dynamo-rooms, and living spaces generally will have especial study, and recommendations will be made for the improvement of conditions. The eye-conditions of men detailed to adjust carbons on searchlights, will be safeguarded in the future by special goggles or screens to cut off the actinic rays.

NEW YORK AND NEW ENGLAND ASSOCIATION OF RAILWAY SURGEONS.—The twentieth annual session of the New York and New England Association of Railway Surgeons will be held at the Hotel Astor, Broadway and 44th street, New York City, on November 3-4, 1910, under the presidency of Dr. L. M. Bingham, of Burlington, Vt. An excellent program has been arranged. Dr. John B. Deaver, of Philadelphia, will deliver the "Address on Surgery" on November 3rd, at 12 o'clock. A cordial invitation is extended to railway officials, railway surgeons, and to the medical profession to attend this session of the association.

PERSONALS.—Dr. GEORGE TILDEN (A. M. C. '67), has moved from 406 New York Life Building, to 544 Brandies Theatre Building, Omaha, Nebraska.

—Dr. WILLIAM O. STILLMAN (A. M. C. '78), has been re-elected president of the American Humane Society.

—Dr. MORRIS H. STROPE (A. M. C. '80), of Poestenskill, Rensselaer Co., has been appointed coroner by Governor White, to succeed the late Elias B. Boyce of Averill Park.

—Dr. ARTHUR C. HAGEDORN (A. M. C. '92), of Gloversville, N. Y., has gone to Philadelphia, Pa., to study diseases of children.

—Dr. WALTER L. GRAHAM (A. M. C. '97), is practising at 82 West 12th street, New York City.

—Dr. FREDERICK I. JANSON (A. M. C. '98), has moved from Seattle, Washington, to 431 Judge Building, Salt Lake City Utah.

—Dr. MICHAEL F. WANSBURY (A. M. C. '99), has moved from 226 4th street, to 311 4th street, Troy, N. Y.

—Dr. JOHN H. DINGMAN (A. M. C. '01), has given up his practice in Madalin, N. Y., and sailed for Europe about the middle of October. He will spend several months on the Continent, devoting his time to surgery.

—Dr. GERALD GRIFFIN (A. M. C. '01), of 176 Washington avenue, Albany, N. Y., is recovering from a severe attack of pneumonia.

—Dr. ARTHUR C. HOLDING (A. M. C. '01), has moved from 98 Chestnut street, to the "Wellington," 130 State street, Albany, N. Y.

—Dr. GEORGE VAN V. WARNER (A. M. C. '02), has moved from Navesink, N. J., to Fair Haven, N. J.

—Dr. CHESTER E. H. TRACY (A. M. C. '04), has moved from Nassau, N. Y., to Castleton, N. Y.

—Dr. EDWIN F. HAGEDORN (A. M. C. '08), has moved from Ephratah, N. Y., to the practice of his uncle, Arthur C. Hagedorn, at 13 Elm street, Gloversville, N. Y.

—Dr. WILLIAM H. CONGER (A. M. C. '08), formerly of Rome, N. Y., has taken Dr. Dingman's practice in Madalin, N. Y.

—Dr. JAMES J. YORK (A. M. C. '09), after a year as resident physician in the Ellis Hospital, Schenectady, is now assistant to Dr. John H. Collins, Schenectady, N. Y.

—Dr. HENRY B. GILLEN (A. M. C. '09), is practising at 20 Seneca street, Cohoes, N. Y.

—Dr. EUGENE F. MCGILLIAN (A. M. C. '09), is located at 435 Third street, Troy, N. Y.

—Dr. ORLA A. DRUCE (A. M. C. '09), has given up his practice at New Paltz, N. Y., and opened an office at 613 Central avenue, Albany, N. Y.

—Dr. JOHN F. BEIERMEISTER (A. M. C. '10), has been appointed resident physician at the Lying-In Hospital, New York City.

—Dr. HENRY HUN, who sailed for Europe early in June for a year of rest, is now in Switzerland.

—Dr. SPENCER L. DAWES, who was recently operated upon for appendicitis, has left the hospital, and is well on the road to recovery.

—Dr. CYRUS S. MERRILL and Miss Merrill have returned from an extensive trip around the world.

—Dr. SYLVESTER E. STRONG announces the appointment of Dr. Herbert E. Baright as associate physician of the Saratoga Springs Sanitarium, Saratoga Springs, N. Y.

MARRIAGES.—Dr. EDDY S. HASWELL (A. M. C. '09), and Miss Ida May Pullman, were married in Albany, Oct. 18, 1910.

—Dr. CALVIN B. WITTER (A. M. C. '09), and Miss Edna R. Midlam, were married in Albany, June 1, 1910.

DEATHS.—Dr. ELIAS BEDELL BOYCE (A. M. C. '58), who was supervisor two terms and coroner one term, of Rensselaer County, N. Y., died at his home in Averill Park, Sept. 23, from cerebral hemorrhage, aged 72.

—Dr. HUGH SLOAN (A. M. C. '65), of Utica, N. Y., died at his summer cottage at Lewis Point, Oneida Lake, Sept. 7, aged 66.

—Dr. WILLARD E. HILLEGAS (A. M. C. '82), died at Chicago, Ill., September 21, 1910.

In Memoriam

WILLIAM M. HENDRICKSON, M. D.

Dr. WILLIAM M. HENDRICKSON, an alumnus of the Albany Medical College of the class of 1863, died at his home in Coupeville, Washington, May 30, 1910.

Dr. William Matthew Hendrickson was born in Albany, N. Y., in 1841. His father was also a doctor and he was an only child. Immediately after his graduation Dr. Hendrickson entered the army and served with credit in the capacity of surgeon during most of the Civil War. After the war he went to California where the greater part of his life was spent but has been a resident of the Sound country for years, having practiced medicine at Tacoma and at Vancouver, B. C., and was United States army surgeon at Forts Flagler, Wrangel, at forts in Alaska and California, and finally at Fort Casey in 1900. In 1902 he married his present wife, then Miss Mary Hartzell, and settled in Coupeville where they have since resided. Dr. Hendrickson was considered by many as austere and cold but this was largely a mistake and due to his military life. To those who knew him well he was one of the kindest men, bright, intellectual and broad minded, a first class physician and surgeon, and he will be greatly missed by the friends and neighbors among whom he has lived so long as well as hundreds of prominent men throughout the state with whom he was an intimate friend.

ELIAS BEDELL BOYCE, M. D.

Dr. ELIAS B. BOYCE, an alumnus of the Albany Medical College of the class of 1858, died at his home in Averill Park, N. Y., September 23, 1910, from cerebral hemorrhage, aged 72 years.

After graduation Dr. Boyce returned to his home at West Sand Lake, N. Y., where he practiced until 1866. At that time he was prostrated by typhoid fever, followed by a lung complication, and was obliged to relinquish his work. He traveled for five years, and in 1872 began practice again. He has been supervisor and coroner of Rensselaer county, and for a number of years health officer of his town. He was also active in a number of leading fraternal organizations.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition. Part VIII. Gout. By PROF. DR. H. STRAUSS, Professor of the Third Clinic, Royal Charity Hospital, Berlin. Authorized American Edition, translated under the direction of NELLIS BARNES FOSTER, M. D., Associate Physician to the New York Hospital; Associate in Biological Chemistry, College of Physicians and Surgeons, Columbia University. New York, E. B. Treat & Co., 1909.

This little booklet of seventy pages is written to give a concise picture of the modern conception of the nature and treatment of gout. The following general theories are propounded. A supersaturation of the blood with uric acid, probably plays an especial role in the origin of the crystalline separation of sodium bi-urate in the tissues, which is followed by destructive changes in the connective tissues as a reaction to this specific toxin. The uric acid in the organism as shown by Burian and Schur is derived from two sources, "Exogenous" and "Endogenous," of which the latter is produced in a constant amount for the individual. Uric acid is either directly excreted by the kidneys or is transformed into other compounds. At the time of an acute gouty attack there is often increased excretion by the kidneys while the excretion during the interval is either normal or lessened. A considerable fraction of the uric acid formed in the organism or introduced into it probably appears in the urine or urea. Uric acid retention or deficient destruction in the body may lead to its increase in the blood. The factor which causes the precipitation of uric acid in certain places where the blood supply is defective (cartilages, tendon sheaths, connective tissues, etc.), is not definitely known.

Under the heading of symptoms, an important note states that the author feels he cannot be too emphatic in declaring that urine analyses are not sufficient evidence of uric acidemia and that they are valueless unless the patient is under the rigid supervision which characterizes a metabolism research. Headache, neuralgia and rheumatic pains are said to be symptoms of the gouty diathesis. But a page and a quarter are devoted to this heading.

Under the heading "Therapy," are included twenty-six pages. The treatment of gout is stated to consist principally of diet and hygiene. Purin-free foods or those containing but a small percentage of purins should be given. Carbohydrates and fats may be allowed. The bulk of the food should be small and should contain little nourishment yet abrupt alterations in the patient's manner of living, except during acute attacks should be avoided. Mineral waters are of value and suitable ones to give are enumerated. Potassium iodide is recommended for protracted attacks. Colchicum, salicylic acid and urotropin may be used. During the acute attack, colchicum or the salicylates may be used but in addition certain general and local conditions require attention. There should be a non-irritating diet such as is suitable for a fever patient, under nourishment rather than over-feeding, usually no alcohol and free catharsis. Cooling ointments (containing menthol) and wrapping of affected parts in cotton are suggested. The monograph is a helpful summary of modern and useful ideas regarding gout.

A. T. L.

Heart Disease—Blood Pressure and the Nauheim-Schott Treatment.

By LOUIS FAUGERES BISHOP, A. M., M. D., Clinical Professor of Medicine, New York City; Physician to the Lincoln Hospital; Late Chairman of the Section of Medicine of the New York Academy of Medicine; Member of the New York Pathological Society; Alumni Association, St. Luke's Hospital, etc. Third edition. New York, E. B. Treat & Company, 1909.

The first edition of this work published in 1904 under the title "Blood-Pressure" has already been reviewed in the ANNALS. In the second edition the title was changed to "Heart Disease and Blood Pressure." Now the "Nauheim-Schott Treatment" is added to the title and the preparation of this edition was evidently completed by the author while at Bad-Nauheim. The book is not a manual of blood pressure measurement, the author's rather cumbersome apparatus being the only sphygmomanometer described; nor is it in any sense a complete treatise on heart disease. It is rather, a short but interesting discussion of conditions accompanied by low or high blood-pressure with suggestions as to their treatment. The second part of the book is concerned wholly with the Nauheim-Schott treatment and no particular reason is apparent for including it in the present volume rather than publishing it as a separate monograph.

A. T. L.

Anatomy, Descriptive and Applied. By HENRY GRAY, F. R. S., late lecturer on Anatomy at St. George's Hospital, London New (18th) edition, thoroughly revised, by EDWARD ANTHONY SPITZKA, M. D., Professor of Anatomy in the Jefferson Medical College of Philadelphia. Imperial octavo, 1496 pages, with 1208 large and elaborate engravings. Price, with illustrations in colors, cloth, \$6.00 net; leather, \$7.00 net. Lea & Febiger, publishers, Philadelphia and New York, 1910.

This new edition excels its predecessors in many ways and has received a most thorough revision. Entire passages have been rewritten, all obscure points made as clear as possible and all the latest developments in anatomy added in such a way as to bring the work right to date. The many duplications found in the previous editions have to a great extent been eliminated and this, with the condensed style of Professor Spitzka's writing, saves the reader much time. Although much valuable information has been added, the whole is so condensed as to lessen much space. Despite all this the principles of the original Gray have been retained.

The title *Surgical Anatomy* has been dropped and the broader term *Applied Anatomy* substituted, because in this edition medical as well as surgical considerations are discussed. This is one of the cardinal features of the edition and will be appreciated by the physician.

The table of contents is well arranged and gives a full conspectus of anatomy. Much valuable information in embryology and the nervous system has been added. This is especially true of the part devoted to the nervous system, which just at this time is a feature of obvious advantage to the busy practitioner.

The directions given for dissecting are clear, concise and serve every requirement of the student.

Only those original drawings are retained as still represent the latest views. However, quite a few of these remain, which goes to show that the first drawings Gray used were indeed incomparable illustrations. To these original drawings Doctor Spitzka has added many of his own, and as the doctor is an artist of marked ability, the whole work is so delineated as to convey a most easy grasp of the various anatomical structures. While many of the illustrations are thus new and taken from original drawings and preparations, quite a few are taken from standard works. The extra use of colors in these drawings make them very instructive. For instance, in the development of bone, the centres of ossification are surrounded by blue and the epiphysial laminae are likewise marked in blue. The illustrations of bones show muscular attachments in red while the attachment of ligaments is shown in blue. In other illustrations the origins of muscles are shown in red and their insertions in blue. There is a fine drawing showing the costocoracoid membrane brought out in blue. Two excellent drawings of the thorax (after Spalteholz) have been added. This is something Gray has never

had before. A picture of the triangles of the neck is particularly clear and will be of great service to the teacher and student.

While the new nomenclature is used throughout the book, the editor has sought to take a middle course in the use of those terms concerning which a vast difference of opinion prevails.

Gray has always been noted for its practical and didactic characteristics and a careful perusal of the present edition shows these features have again been accomplished.

The eighteenth edition is a monument to the genius of Henry Gray, a masterpiece which fully fills every need of the teacher, student, physician and surgeon.

In the preparation of the work, Professor Spitzka has had associated with him, his assistants, Doctor Howard Dehoney, Demonstrator of Anatomy; Doctor Henry E. Radasch, Associate in Histology and Embryology, Jefferson Medical College, Philadelphia; and Mr. Edmond J. O'Donnell, class of 1911, Albany Medical College, Albany, N. Y. Mr. William A. Hassett, a representative of the firm of Lea & Febiger, indexed the book and superintended its printing and binding.

H. E. L.

A Treatise on Diseases of the Nose, Throat and Ear. By WILLIAM LINCOLN BALLENGER, M. D., Professor of Laryngology, Rhinology and Otology in the College of Physicians and Surgeons, Chicago. New (2d) edition, thoroughly revised. Octavo, 930 pages, with 491 engravings, mostly original, and 17 colored plates. Cloth, \$5.50 net. Lea & Febiger, Philadelphia and New York, 1909.

The author in the preface of the second edition of his book, states that it was designed as a text book for students, as a guide for the general practitioner and as a reference for specialists. It may more truly be called a text book for specialists, because of all the recent text books on the nose, throat and ear, it is by far the most comprehensive and complete.

It is a little too advanced for the student, although the beautiful and elaborate illustrations in themselves, give him a fairly clear idea of the steps in practically every operation. This feature of the book should receive special mention. There are few text books in which the drawings have been so carefully prepared.

The functional labyrinth tests, as described by Barany and Neumann, are more fully described than in any of the newer books on this subject.

The author has done much original work on the surgery of the nasal septum, particularly in devising new instruments for the submucous resection, and the description of this important operation is most complete.

No specialist can afford to be without Dr. Ballenger's book, and he is to be congratulated for the very thorough and painstaking way in which every chapter has been worked out.

C. F. T.

A Treatise on Diseases of the Eye. By JOHN E. WEEKS, M. D., Professor of Ophthalmology in the University and Bellevue Hospital Medical College, New York. In one octavo volume of 944 pages, with 528 illustrations and 25 full-page plates. Cloth, \$6.00 net. Lea & Febiger, publishers, Philadelphia and New York, 1910.

This work of Weeks is of unusual merit, deserving of approval in many ways, the text is clear, concise, and arranged in logical order and yet comprehensive, showing a mastery of expression from the illuminating chapter on Development to the closing one on Preparation of Specimens for Diagnosis in the Search for Micro-Organisms.

Practicability is not sacrificed to scientific aim, for both have been constantly before the author. In the next edition it is to be hoped that even more illustrations may be added.

As the first edition it is remarkably free from errors of any kind and as a product of the printer's art, there is little left undone. The paper is good, the type and illustrations excellent.

Without hesitation it is recommended to all having an interest in ophthalmology, whether medical student, general practitioner or specialist.

A. J. B.

Nutrition and Dietetics. A Manual for Students of Medicine, for Trained Nurses, for Dietitians in Hospitals and Other Institutions. By WINFIELD S. HALL, Ph. D., M. D., Professor of Physiology, Northwestern University Medical School, Lecturer on Physiology and Dietetics in Mercy Hospital and Wesley Hospital, Chicago, New York and London, D. Appleton and Co., 1910.

In this convenient manual of dietetics the author has made use of the results of recent researches on animal nutrition. Chittenden's experiments at Yale University regarding protein metabolism are discussed, a chapter is devoted to the fuel value of foods and the physiology of digestion is treated at some length. For healthy people, the author recommends a mixed diet with a rather small protein content. He advocates strongly the method of thorough mastication of the food introduced by Fletcher. A considerable portion of the book is devoted to "Diet in Disease," including "Infant Feeding in Abnormal Conditions." For typhoid fever patients he recommends a liquid diet consisting largely of gruels and other modifications of milk during the height of the disease and semi-solid food during convalescence. No approval is given nor indeed is any mention made of the recent practice of allowing solid food throughout the course of the disease as advocated by Shattuck, Thayer and others. A protest is made against forced feeding in tuberculosis at the expense of digestion. The appendix contains a classification of diets and a resumé of the experimental chemistry of food stuffs. The practitioner will find this book is a valuable one for reference as to the practical details of dietetic treatment.

A. T. L.

PEDIATRICS

Edited by Henry L. K. Shaw, M. D.

Family Diabetes in Children. (Diabete infantile familial.)

LION and MOREAU. *Archives de Médecine des Enfants*, January, 1909.

It is of interest to note that the first reported instance of diabetes occurring in children of the same family was made in 1696 by a Dr. Morton in a book published in Amsterdam. The author was able to find twenty-nine recorded instances of family diabetes besides the one they report. Abstracts of all cases are included in the article.

Under the term family diabetes or diabetes of a family type are included cases which develop in several children of the same parentage. The authors believe they form a class apart from the ordinary cases of diabetes in children. They show from statistics that "family diabetes" comprise about twenty-three per cent. of the cases of diabetes in children. The ages of the cases ranged from twenty-two months to eleven years. Sex showed no preference. Heredity, however, plays a most important rôle. In 161 cases of diabetes in children there were diabetic ancestors in thirty-six cases, or twenty-two per cent. Among the cases of family diabetes collected by the authors, diabetes was traced in sixty-two per cent. of the cases.

The two cases in one family reported by the authors had no direct diabetic ancestors. The maternal grandfather suffered many years from eczema. The paternal grandfather had syphilis and locomotor ataxia. The mother of the paternal grandmother died from diabetes.

The symptoms do not differ from other cases of diabetes in children. Increased thirst and polyuria were the first symptoms in most of the cases. In the author's cases, however, there was no polydipsia or polyphagia. They average about seventy-two grammes of sugar in twenty-four hours. The appearance of acetone and diacetic acid are very unfavorable signs.

Death is almost the universal termination in from a few weeks to eight months. In six instances in which recovery was noted, glycosuria was the only symptom noted in these cases. In the others there were signs of myxoedema and recovery occurred after the administration of thyroid gland.

They recommend in the treatment a milk diet with occasional meal and yolk of eggs. They also gave alkalis in large doses with no result. A mixture of bromide of potash and antipyrine seemed to give some relief.

Tuberculosis in Children. (Ueber Tuberkulose des Kinderalters.)

ALLRECHT. *Weiner klinische Wochenschrift*, November 10, 1909.

The author has had an exceptional opportunity for the study of tuberculosis in children. He and his assistants have performed 3213 autopsies on children under twelve years of age. Of these some signs of tuberculosis were found in 1060, or thirty-three per cent. The youngest age was two weeks, and no evidence of tuberculosis was detected in any of

the still-born or newly-born infants. Under one year of age there were 191 cases of tuberculosis, or 14.6 per cent. of 1300 autopsies. Between the first and sixth year 691 or 44.3 per cent. of 1558 autopsies, and between the sixth and twelfth year 178, or 50.1 per cent. of 355 autopsies. The technique followed in making the autopsies is described. The lymphatic glands were carefully and systematically examined. Special attention was always given to the glands in the region of the neck, chest and abdomen. The portal and retroperitoneal glands and those in the groin and axilla were always examined. In doubtful cases a microscopical examination was made.

The question of primary intestinal tuberculosis is first discussed. Under this heading Albrecht would include only those cases in which isolated tuberculosis of the intestinal mucous membrane or mesenteric glands is found without any signs of pulmonary or bronchial gland tuberculosis or any evidence of a healed tuberculosis. A critical examination of all his autopsies revealed only seven cases of primary intestinal tuberculosis, or 0.66 per cent. Only one case occurred in a child under twelve months of age.

The histories and anatomic findings in these cases are given. The author describes the pathologic-anatomic peculiarities of tuberculosis in children. There are many differences from the adult and very early changes are found. The most frequent form is chronic caseous tuberculosis of the tracheo-bronchial lymph nodes. These are often unilateral and the neighboring groups of lymph glands are not affected. The great frequency of small tuberculous areas (lungenherden) in the lungs of tuberculous children is dwelt upon at length. The author believes that these tuberculous areas of the lungs in children are the primary sources of infection which in his opinion are aerogenous.

The reason the areas in the lungs are not oftener detected is that a superficial, routine examination of the lungs is generally made. Albrecht makes many sections of the lungs and looks for a slight resistance to the knife. He sometimes spends half an hour in the examination of the lungs before he detects the suspected area. When there is any involvement of the bronchial lymph glands he is practically certain to find some involvement of the lung.

He reports many experiments to prove that Cornet's localization law applies invariably to the source of infection in children. He thinks it is impossible to have, for instance, primary intestinal infection without involvement of the neighboring mesenteric or portal lymph glands. He does not believe the possibility of the infection entering the circulation through the intestinal tract and leaving no trace there make its first appearance in the tracheo-bronchial lymph nodes or lungs.

He has never found a case of cervical lymph gland tuberculosis without an involvement of the lungs or an active or healed tuberculosis of the tracheo-bronchial glands.

Behring's statement that all children who are infected with tuberculosis are especially susceptible and predisposed to pulmonary tuberculosis is discussed at some length. Albrecht does not go as far but feels that from

his experience he can say that of the children who have tuberculosis in childhood about one-half die. Of those who recover some may acquire after puberty a new or a reinfection and about one-third will continue healthy.

A Case of Chronic Tetany in Early Infancy. (Ein Fall von Chronischer Tetanie un erster Kindesalter.)

ESCHERICH. *Mitteilungen der Gesellschaft für innere medizine and Kinderheilkunde in Wien, November 7, 1909.*

An infant fed two weeks on the breast and then on a cow's milk mixture when three months old had tonic-clonic convulsions in which the hands were clinched and turned inwards and the body and legs remained rigid. The child appeared to lose consciousness. The attacks lasted about three minutes and continued at frequent intervals until the child was fourteen months old and entered the hospital. At the hospital the child would have several convulsions a day. These were always preceded by a loud crowing inspiration and then for over a minute the respiration would cease. The attacks were more frequent when the child had a fever or was disturbed. The facial phenomenon was plainly marked; the electrical tests for tetany the carpopedal spasm, etc., were positive.

Escherich believes that a continued constitutional form of tetany in early childhood is very rare. It is generally believed that cases of tetany in infants have some unknown relationship to the form of nourishment or the season of the year and is a functional disease and distinct from the tetany of adults. Escherich differs from this view and believes that infantile and adult tetany are both due to the same cause and that is some injury to the function of the epithelkoeperchen. One of his assistants has found an anatomic lesion of these bodies in every case where tetanoid symptoms were present. The author expresses the hope that in the near future transplantation of the parathyroid glands (epithelkoeperden) will result in a cure of the disease.

PATHOLOGY AND BACTERIOLOGY

Edited by Thomas Ordway, M. D.

On Heterotrophic Epithelial Growth and Carcinoma. (Ueber heterotropische Epithelwachshungen und Krebs.)

LUBARSCH. *Verhandlung der Deutsche pathologische Gessellschaft, Jahrgang 1906, p. 208.*

By heterotrophic growth the author means the finding of epithelium as the result of proliferation in places where it normally does not belong. In speaking of the intestinal tract he limits the term to those cases where the epithelial structures are found between the layers of the muscularis mucosae or completely under it. It is especially common in the stomach and if one is familiar with the condition it can be recognized by the naked eye. It is found chiefly in chronically inflamed stomachs, both in the hypertrophic and atrophic forms of gastritis, and also in acute and chronic catarrh, although less frequently. There may be an actual separation of

the down growth from the surface epithelium. The groups of cells are usually surrounded by inflammatory cells. There may or may not be evidence of proliferation.

The general conclusions of Lubarsch and of other authors whom he reviews are that heterotrophic proliferation occurs only where there has been deep-seated inflammatory processes. In the gall bladder it occurs in chronic inflammatory conditions with and without the presence of gall-stones. It is found most commonly in the aged.

Microscopically the appearance often suggests that of a new growth, but the connection with an inflammatory process is so clear that the distinction may be made. To rule out the possibility of such proliferation being due to the growth of embryonic rests Lubarsch investigated the following regions in normal subjects: Cardiac orifice of the stomach, pyloric opening, appendix, ileo-caecal valve region, the ano-rectal region, and the fundus of the gall-bladder. Complicated arrangements of the esophageal and stomach epithelium were not rare at the cardiac orifice, although no down growth or epithelial nests of cells were found. The mucosa was always limited definitely by the muscularis mucosae. At the pylorus he occasionally found Brunner's glands far in the stomach side. Gall-bladders of foetuses, infants, and children in no case showed any anomalies. In the intestines some anomalies of the glands have been found, but only in cases of colitis. In two normal cases only some deep-seated, isolated glands were found at the ileo-caecal valve. He therefore concludes that heterotrophic proliferation cannot be explained by developmental disturbances. It is always produced by inflammatory changes and is found almost exclusively in the aged. He believes that a large percentage of the cases of heterotrophic growth developed into cancer and that this is most apparent in the case of the stomach.

On the Statistics and Etiology of Carcinoma of the Stomach, Gall-passages, and Bronchi. (Zur Statistik und Aetiologie des Carcinoms des Magens der Gallenwege und Bronchien.)

WALTER HABERFELD. *Zeitschrift für Krebsforschung*, Bd. VIII, 1908, p. 190.

The introductory paragraph calls attention to the re-awakening of interest in chronic injury as a possible cause of cancer. It takes up first found ulcers of the stomach and cancer of the stomach. In 20,000 autopsies there were 662 cases of stomach carcinoma; 57 per cent. were in males and 43 per cent. in females. The cases were most common between the ages of forty and sixty years. Of these 662 cases, 116, or 16 per cent., could be proved to have been preceded by ulcer. He concludes that there is a connection, inasmuch as in the other cases there was no way of determining the question as to the previous existence of ulcer.

CHOLELITHIASIS AND CARCINOMA OF THE GALL-BLADDER

In 20,000 autopsies 265 cases showed cholelithiasis. As 6 per cent. is very small, the author states that he doubts the accuracy of observation in the clinics from which he obtained his records, as other authors have

obtained much higher percentages. He calls attention to the fact that gall-bladders are frequently not opened at autopsy. In the 20,000 autopsies there were 164 cases of carcinoma of the gall-bladder; 73 per cent. of these were in females, and 27 per cent. in males. The frequent association of gall-stones and cancer of the gall-bladder is discussed, with the conclusion that gall-stones are found in primary gall-bladder cancer almost without exception. In secondary carcinoma of the gall-bladder they are found very seldom. They are in every case one of the causes of gall-bladder cancer; at least they precede carcinoma of the gall-bladder but certainly are not a sequence.

In collected statistics from other authors the percentage of cases of gall-bladder carcinoma which show gall-stones varies between 66 and 76 per cent., but the strong argument in favor of gall-stones as a cause of cancer is that the ratio between cancer of the gall-bladder in males and females is precisely the same as in the case of gall-stones.

He concludes that one cannot avoid believing in the relationship between gall-stones and carcinoma.

CARCINOMA OF THE BRONCHI

Carcinoma of the right bronchus and right lung is more common than in the left lung. The author had sixty-eight cases, in which forty-four were in the right lung and twenty-four in the left. He quotes other authors to prove the constancy of this finding. The ratio runs as follows: Thirty-five to twenty-four (Pässler), seventeen to four (Redlich), nine to three (v Schrötter).

Histologically, most of the cases in all of these series were squamous cell carcinoma.

Carcinoma of the bronchi is much more common in males than in females. Of Haberfeld's sixty-eight cases, forty-eight were in males, twenty in females. Other authors got higher percentages in males than this, the usual ratios being as follows: Twenty-seven to five (Wolf), twenty-two to two (Feilchenfeld), twenty-one to six (Riechelmann), twenty-six to five (Redlich).

These findings prove two things: (1) That carcinoma is more common in the right lung than in the left, and (2) that it is much more common in males than in females.

On account of the straighter line that extends between the trachea and right primary bronchus, Haberfeld says that the right bronchus is more subject to the irrigating action of inhaled substances. He does not believe that the solid particles are primarily responsible for the tumor production, but that the resulting inflammations make the subject more susceptible to bacterial infection and that the chronic inflammatory processes thus set up lead to the tumor production.

The statistics show that tailors, clerks, agents, etc., have a higher percentage of carcinoma of the lungs than do stone cutters, street sweepers, etc. The fact that men are subject to greater exposure to irritating substances than women forms a final argument for the connection between injury and cancer of the lung.

A Report on the Use of "Antiformin" for the Detection of Tubercle Bacilli in Sputum.

ROBERT C. PATERSON. *Journal of Medical Research*, April, 1910.

"Antiformin" is the patented name of a disinfectant introduced in 1900. Uhlenhuth and Xylander in 1908 first applied it prominently in bacteriological and hygienic work. It is composed of equal parts of *liquor sodae chlorinatae* and a fifteen per cent solution of caustic soda. Two to five per cent solutions kill ordinary cocci and bacilli rapidly, five minutes at most. It keeps well, part of its efficiency due to the fact that it dissolves coagulum on outside allowing the fluid to reach the bacteria. Doubtless owing to the fatty capsule the acid fast group of bacilli are very refractory to the action of "antiformin," neither their morphology or viability being affected.

Procedure at the Saranac Laboratory—To ten c. c. of sputum add two and one-half c. c. of antiformin (*i.e.*, twenty per cent). If very tenacious dilute to ten c. c. with distilled water and then add antiformin as before. Put in centrifuge tubes which have been kept in sulphuric acid saturated with potassium bichromate; wash with distilled water just before using. Fill tubes—fresh clean unused corks—with mixture; shake well. Let stand twenty-four hours at room temperature or four to six hours at thirty-seven degrees C. (Keep in dark if desired to make subsequent cultures or inoculations.)

Shake again; centrifuge. Draw off supernatant fluid, wash thoroughly three times with sterile normal saline solution. Then use sediment for smears, to plant directly on suitable media or for inoculation. If have not washed out all alkaline may be necessary to use albumin-glycerine to fix sediment to slide.

The same method is used with success in examining pus from cold abscess, feces, urinary sediment, blood and tissue. In case of the latter they should be cut into small pieces, shaken up in distilled water, twenty per cent antiformin added and mixture incubated at thirty-seven degrees for twenty-four hours. Bacilli found in this way when smears made directly were negative. In a similar way bacilli were found in milk from a cow with a tuberculous udder.

The method is being successfully used in sputum examinations at the Adirondack Cottage Sanitarium. In eight cases in which tubercle bacilli were found in original smears they were in greatly increased numbers after examination by the antiformin method and of twenty-three cases giving negative smears, five were positive after antiformin treatment.

Paterson summarizes as follows:

(1) Antiformin provides a cheap, easy and efficient method of examining sputum, in which tubercle bacilli are suspected or are few in numbers.

(2) Solution of antiformin which kill ordinary contaminating organisms, leave tubercle bacilli intact, thus enabling us to cultivate the bacilli direct from sputum or to make inoculation experiments more certain, by eliminating the chances of sepsis.

(3) Antiformin is useful for the examination of feces, urinary sediments, pus, and blood for tubercle bacilli.

ALBANY MEDICAL ANNALS

Original Communications

ÜBER DIE EINGANGSPFORTEN DER MENSCH- LICHEN TUBERKULOSE.

VON HANS CHIARI AUS STRASSBURG, I/E.

*Vortrag gehalten in der medicinischen Gesellschaft in Albany
am 13. October, 1910.*

Seit der Entdeckung des Tuberkelbacillus durch *Robert Koch* im Jahre 1882 hat das Studium der Eingangspforten der menschlichen Tuberkulose wesentliche Fortschritte gemacht. Man ist jetzt in der Lage, den tuberkulösen Charakter pathologischer Veränderungen durch den Nachweis der Tuberkelbacillen in den erkrankten Geweben mit Sicherheit zu erkennen und beschäftigten sich die pathologischen Anatomen eifrig mit der Erforschung der Wege, auf welchen die tuberkulöse Infection zu stande kommt. Sie untersuchten besonders solche Fälle, in denen nur ein einziger Herd oder einige sicher mit einander in Connex stehende tuberkulöse Herde in einem Individuum vorhanden waren und machten daraus ihre Schlüsse auf die Art des Hineingelangens des Virus der Tuberkulose in den menschlichen Körper.

Bezüglich der Eingangspforten der Tuberkulose werden allgemein unterschieden die *aëroge* oder *Inhalationstuberkulose*, die *enterogene* oder *Deglutitions-* oder *Fütterungstuberkulose*, die *Impftuberkulose*, die *congenitale* oder *gonneioogenetische* (*Baumgarten*) Tuberkulose, welche wieder durch die Keimzellen vermittelt werden kann—germinative Tuberkulose—oder durch die Placenta und Eihüllen auf den Fötus übertragen werden kann. Daneben spricht man noch von einer *kryptogenetischen* Tuberkulose, *i.e.*, von einer Tuberkulose, deren Eingangspforte nicht klar ist. Die Fälle dieser letzteren Art

werden aber immer seltener, je weiter die Kenntnisse sich entwickeln.

Gelegentlich einer Reihe von Vorträgen über die Eingangspforten der menschlichen Tuberkulose, die im letzten Winter im naturwissenschaftlichmedizinischen Vereine in Strassburg gehalten wurden, hätte auch ich Gelegenheit, diese Frage zu behandeln, u. z., vom pathologisch-anatomischen Standpunkte aus (*vide Strassburger med. Zeitung*, Jänner 1910).

Die *aëroge* oder *Inhalationstuberkulose* kann zu einer primären Tuberkulose in der Nase, im Munde, im Pharynx, im Bronchialbaume und den Lungen sowie den betreffenden regionären Lymphdrüsen führen. In der Nase ist eine solche sehr selten (*Merkel*). Vom Munde äusserte *Westenhoeffer*, dass bei Kindern vom Munde aus besonders zur Zeit des Zahnwechsels eine Tuberkulose von Lymphdrüsen entstehen könne. Der Pharynx stellt eine häufige Eingangspforte dar, in der Art, dass von ihm aus Lymphdrüsentuberkulose zu Stande kommt, während er selbst nur selten Site primärer Tuberkulose zu sein scheint. Im Larynx wurde meines Wissens nur einmal primäre Tuberkulose gesehen (*Manasse*), von den Bronchien hingegen glaubte *Birch-Hirschfeld* zeigen zu können, dass in ihnen primäre Tuberkulose sehr häufig sei. Die Lungen wurden seit jeher als sehr oft primär tuberkulos erkrankt angesehen und hat in der jüngsten Zeit *Albrecht* dargethan, dass man bei sorgfältiger, speciell darauf gerichteter Untersuchung der Lungen von Kindern häufig einen kleinen Herd von Tuberkulose als einzigen Herd im Körper finden kann, nicht selten combinirt mit Tuberkulose der betreffenden peribronchialen Lymphdrüsen. Ich konnte diese Angabe von *Albrecht* bestätigen. Diese Lungenherde sind Herde von tuberkulöser Pneumonie mit sehr reichlichen Tuberkelbacillen.

Die *Deglutitions-Tuberkulose* kann ihren primären Site auch wieder im Munde und Pharynx haben und gilt für sie hier dasselbe wie bei der Inhalationstuberkulose. Im Oesophagus ist eine primäre Tuberkulose gewiss ungemein selten ebenso im Magen. Bezüglich des Darmes und der Mesenterialdrüsen divergiren die Anschauungen der Autoren ungemein. *Heller* berechnete ihre Häufigkeit mit 30.7%, während z. B. *Ganghofner* nur 1.9% und *Albrecht* gar nur 1% fanden. Es ist jetzt aufgeklärt, dass diese bedeutenden Verschiedenheiten durch besondere locale Verhältnisse bedingt waren und scheint jetzt

die Seltenheit der primären enterogenen Tuberkulose ziemlich allgemein anerkannt. Meine eigenen Erfahrungen sprechen ganz in diesem Sinne.

Die *Impftuberkulose* ist zweifellos. Hierher gehören die Tuberkulose der Haut an den Händen von Menschen welche mit tuberkulosem Material zu hantiren haben und gelegentliche Fälle von tuberkulöser Infection von Wunden, z. B. des Praeputiums nach ritueller Circumcision und von Tuberkulose im weiblichen Genitalsysteme durch den Coitus bedingt.

Die *genneiogenetische* Form bezeichnete *Baumgarten* als die häufigste. Ihr Vorkommen steht ausser Zweifel, wie das, z. B. der klassische Fall von *Lehmann* gezeigt hat. In neuester Zeit hat sie noch viel mehr Anerkennung gefunden durch die häufigen Befunde von Tuberkulose in der Placenta (*Schmorl, Sützenfrey*) und den Eihüllen. Von hier aus können Tuberkelbacillen in den Foetus gelangen und so zu einer Tuberkulose desselben führen, wenn dieselbe auch nur ausnahmsweise im Neugeborenen anatomisch constatirt werden kann.

In dieser Art scheinen also durch die pathologisch-anatomischen Untersuchungen die Erkenntnis der Eingangspforten der menschlichen Tuberkulose recht weit gediehen und meinte man mit Recht, die Inhalationstuberkulose als die häufigste Form, die Deglutitionstuberkulose und die Impftuberkulose als seltener und die genneiogenetische Tuberkulose gleichfalls als nicht häufig bezeichnen zu dürfen. Freilich fehlte es nicht an gegen-theiligen Meinungen so namentlich betreffs der Lungentuberkulose, deren Inhalationsgenese verschiedene Autoren bestritten.

In der neuesten Zeit nun wurde von *Harbitz* und von *Weichselbaum* und seinem Schüler *Bartel* darauf hingewiesen, dass nicht selten durch die Tuberkelbacillen lediglich eine Vermehrung der Lymphocyten in Lymphdrüsen, eine lymphatische Hyperplasie veranlasst werden könne und dass in solchen Lymphdrüsen nur durch das Thierexperiment die Tuberkelbacillen constatirt werden können. Sie nannten diese latente Tuberkulose *lymphoide* Tuberkulose und meinten, dass von ihr aus späterhin anderswo eine Tuberkulose entstehen könne. Es ist das eine ungemein wichtige Sache, weil dadurch die früher geschilderten pathologisch-anatomischen Erfahrungen über Primärtuberkulose erschüttert erscheinen. Ich habe dieser Frage in der letzten Zeit meine besondere Aufmerksamkeit zugewandt. Die Angaben von *Harbitz, Weichselbaum*

und Bartel über die lymphoide Tuberkulose sind zweifellos richtig, ich bin aber nicht der Meinung, dass dieselbe als Ausgangspunkt für eine weitere Tuberkulose besonders bedeutungsvoll sei. Dagegen spricht der Umstand, dass man so ungemein selten einen isolirten Herd von Tuberkulose findet, der als embolisch erkannt werden kann, dass vielmehr die früher erwähnten als primär angesprochenen tuberkulösen Herde wirklich nur die Charaktere primäre, durch die betreffende Infection erzeugter Herde besitzen. Vielleicht gehen eben mit der Zeit die "latenten" Tuberkelbacillen der "lymphoiden" Tuberkulose zu Grunde und resultirt daraus für gewöhnlich keine weitere Tuberkulose. Auf diesem Gebiete sind gewiss noch sehr viele weitere Untersuchungen nothwendig, an denen wieder Anatom so der Kliniker mitarbeiten muss.

THE PROBLEM OF THE ACUTE MENTAL CASE.

Read at the Meeting of the Medical Association of North Berkshire, held at North Adams, Mass., December 14, 1909.

By J. MONTGOMERY MOSHER, M. D.,

Attending Specialist in Mental Diseases, Albany Hospital

To Hughlings Jackson we are indebted for the analysis of all nervous function into reflex and inhibitory activity, demonstrating the great principle that every manifestation of nervous energy is reflex or inhibitory or a combination of both. Reflex acts represent the impulses conveyed by sensory stimuli to motor organs without the intervention of the will. In the lower forms of life and in the "lower levels" of man, the reflex act indicates simply the inherent principle of self-preservation, as the response of the amoeba to the proximity of food, or the withdrawal of the hand from the flame. As we ascend the scale, reflex acts are modified or controlled by inhibition, the evidence of the governing power of higher nervous structures. When this dominating influence is diminished or lost, reflex activity resumes its natural vigor, and the reflexes are said to be "exaggerated." The purely physical evidences of this are well known, as is the increase of the patellar tendon reflex in lesions above the reflex arcs, in spinal cord disease or in local gross disease of the cerebral hemispheres. Hughlings Jackson has also found very strong support of the

invariability of the theory in the respiratory anomalies of hemiplegia. The thoracic muscles have long been cited as an exception from the laws governing the reflex activities in cerebral palsies. The explanations of this apparent discrepancy it is not necessary to review, as Dr. Jackson has demonstrated the errors of observation. On close scrutiny it may be seen that the natural respirations on the affected side in hemiplegia are deeper than those of the healthy side, but when a full inspiration is taken the conditions are reversed, and the expansion of the unaffected side is the greater. Normal respiration is a reflex act, and the reflexes of the affected side are exaggerated in hemiplegia; forced inspiration, on the other hand, is a voluntary act, and, inhibitory impulses being impeded in the area of disease, the healthy muscles respond more readily. This brings into view the purely physical character of the reflex act on the one hand, and the mental relations of inhibition on the other. The voluntary act reveals integrity of inhibition; defect of the voluntary act, loss of inhibition or disorder of the agents by which inhibition is expressed. This illustration is now used in emphasis of the thesis of this paper, that mental and physical activity are interdependent, and that disorder of physical structure disarranges or prevents the manifestation of thought. We are diverted for a moment by the universal recognition of the so-called "instincts." For convenience, instincts may be recognized, but, in reality, instinct is the combination of higher reflexes and inhibition peculiar to the individual. Professor Loeb has been at some pains to analyze the instincts, especially in the lower orders, and regards them as a response to environment. The approach of the moth to the flame, he says, demonstrates the affinity of the surface to the effects of light and heat. In the higher mental evolution of man this response to environment is modified by experience and may be contemplated in what is called "character." The inference of certain responses in the individual to certain conditions, underlies all the relations of society, and even determines the fate of nations. General Grant, when he wrote his famous "Unconditional Surrender" despatch, was influenced by his acquaintance with the Confederate general. "I had known General Pillow in Mexico," he writes, "and judged that with any force, no matter how small, I could march up to within gunshot of any intrenchment he was given to hold."

Mental disorder is simply an alteration of the normal func-

tions of the brain, or diminution or loss of inhibition. Subjective or objective impressions are not normally co-ordinated, and reflex activities are intensified. Ungoverned ideas and feelings are exaggerated just as physically a tendon reflex increases when it is freed from the controlling impulse from the brain. The morbid demonstration is governed by a fundamental law of the activities of the nervous system, namely, its rhythm. There is daily or hourly fluctuation in the nervous tone, determined, normally, by habit, or by the varying degrees of fatigue, or by the influences of nutrition or stimulation. When disordered, the nervous system reveals this fluctuation in pronounced form. The periods of activity are aggravated and prolonged, and the intervals of fatigue offer marked contrast. As disease progresses abnormal conditions are accentuated and continuous, reflex mental operations control the patient, and the attack of mental disease is at its height. The mind having been thus unduly exercised, exhaustion supervenes, the attack subsides, and the patient passes on to convalescence or to chronic mental defect.

Departure from mental health is thus characterized by two significant indications: first, increased activity of reflex or involuntary or subconscious mental operations; and second, paroxysmal, periodical or rhythmical manifestations of these activities. The character of the mental symptoms is determined by several factors, prominent among them, the age, social condition, occupation and temperament of the individual. In the practice of to-day it is not at all improbable that the personality of the patient is overlooked in the effort to bring him into one or the other of the categories which constitute a "classification," often a collection of fantastic words of passing acceptance—the opprobrium of modern psychiatry. It is undoubtedly true here, more than in other departments of medicine, that the patient having been scientifically diagnosticated and prognosticated, proceeds to the unexpected, and having been labelled incurable, promptly recovers, or having been promised an early restoration of health, goes gradually and irretrievably to decay.

Mental defectives fall naturally into two groups. In the first are found the so-called "degenerates," who fail of normal evolution at some epoch, as at birth, puberty, adolescence or maturity. They are designated idiots, imbeciles, feeble-minded, paranoiacs or cranks and among them may be included the "instinctive,"

"habitual," or "incurable" criminals, whose "blottings chronicle a life." It may be said of them as Goethe said of himself:

"Hätte Gott mich anders gewollt,
So hätt' er mich anders gebaut."

In the second group are to be included all who attain a normal development of the nervous system, and succumb to disease. Unlike the victims of the first group they are sick, and are proper subjects for the contemplation, study and attention of the physician. Temperament or tendency or heredity offers an undoubted predisposition to mental disease, but without exciting cause, mental disease does not develop. The exciting causes largely arise from occupation, social relations and physical diseases, not necessary to recapitulate. The character of the symptoms is determined by age, and the different forms of mental disease have a background ascribable to the state of cultivation or development of the nervous system. The mental disorders of youth, maturity and senility present distinctive peculiarities.

Among the earliest symptoms of mental disorder is the "imperative idea." This is particularly prominent in adolescence. Imperative ideas have been defined as "morbid suggestions and ideas imperiously demanding notice, the patient being painfully conscious of their domination over his wish and will." Such domination occurs in health, as when some tune forces itself upon the attention, or the constant intrusion of a mathematical calculation blocks a train of thought. The individual deplors this "intellectual tyranny," but escapes with difficulty. In health the imperative idea stands out prominently in a mental environment to which eventually it succumbs. One who reads Balzac's "Quest of the Absolute" must be struck by the force of this beautiful story, which centres upon an imperative idea. A charming word picture is drawn of domestic happiness, so complete and inviolable as to be proof against every worldly temptation. Then, in an accidental meeting, the suggestion of a chemical revelation of the secret of nature is given to the father and husband, and fortune, affection, pride, all yield to this compelling thought. In his life-long search for the unattainable there are occasional intervals of freedom, when some crisis of fortune occurs, and by these the author cleverly shows the integrity of the reason when liberated from its enchantment.

If, however, the imperative concept is the point of departure

from health, springing into prominence from a pathological state, the mind yields gradually, and the dominating idea is the centre around which is organized the train of morbid thought. To the French the imperative concept (*idée fixe*) typifies a permanent mental degeneration allied with hysteria; other authors have described in much the same tone, an "insanity of irresistible ideas," and under this title Kraepelin recognizes manifestations incidental to other forms of mental disorder. But the imperative idea is a very common initial symptom, particularly in the psychosis of youth. Here it is not infrequently a feeling of fear: apprehension of some calamity which cannot be determined, and eventually may lead to delusions. Under its influence the patient becomes quiet, moody and abstracted and gradually appears suspicious. In health, as in Balzac's Balthazar Claes, a morbid delusion does not appear, though an erroneous judgment may be recognized; but in disease, the pathological basis is soon revealed by delusions. The patient finally accuses his friends and family of conspiracy to injure him, and not infrequently charges them with the purpose of committing him to an asylum for the insane. In other cases the manifestation of the idea is in motor restlessness, as in one young lady, who supposed to be well, jumped suddenly from her bed in the night and played noisily the piano, and passed then through a maniacal state of several weeks, without evident delusion. Another young woman said that she felt as if a "seidlitz powder had blown off in her head." The fears or motor restlessness, or impulsive acts, or whatever the initial manifestation may be, intermit, and until the disease is fully developed, alternate with periods in which the patient appears approximately normal. Strangely enough, however, he is then reticent or even indifferent, and says little about his pathological manifestations. It is as if the brain function which had to do with them were exhausted; and in its place normal energies were exercised only.

A young man of irreproachable character, after a period of overwork, is suddenly overpowered by the belief that he has done some wrong. This apprehension causes great misery, and he searches his history for the supposed incriminating act. He may find it, or he may not. He recalls some trivial event and creates from it a crisis. He becomes gloomy and reticent. He soon asks his friends if any complaints have been made of him. He is reassured, temporarily. He then neglects his business

and avoids others. This change in character may have escaped notice, until some sudden outburst of restlessness, irritability or violence attracts attention. He then explains that he has become an object of universal contempt or suspicion, and that the violence has been exercised upon some one who has been spreading the false reports about him, or, that he has been obliged to act in self-defense. The false train of thought grows more and more elaborate and persistent, and is eventually continuous, leading to either a state of incessant agitation, or of profound stupor.

Adolescence is the emotional period of life, and evidences of incomplete adjustment of the nervous functions are numerous. In health this epoch is characterized by exaggerated personality, vacillation, ungoverned impulses, schemes, lack of purpose, disregard of law, physical or social, and misspent energy. These young people are so busy growing they can do nothing else. In disease there are various neurotic disturbances, and sensation and motion are abnormally diverted. Not infrequently anaesthesias, hyperaesthesias, catalepsy, mutism and convulsions direct the attention of the observer to hysteria rather than an idiopathic mental alienation.

In maturity, the departure from mental health offers a distinct contrast from that of youth. The patient is not the victim of an unstable nervous system, but rather of one which has been strained beyond the limit of endurance. He has had experience, has cultivated control of the emotions, and exercise of judgment and reason. He has acquired the habit of balancing cause and effect, and has knowledge of the vicissitudes and uncertainties of existence. He has been subjected to a nervous strain too great for his strength, or has been the unhappy victim of reverses in business or of cares at home, or disappointed ambition. The nervous system is overburdened with worry or anxiety, and loss of sleep and of appetite results. The patient becomes restless and irritable, and his work is attended by a sense of effort. Fatigue, which is normally overcome by ordinary measures of recuperation, becomes pathological or continuous. Morbid introspection follows. The prodromal stage of mental disease and its relations with fatigue have been exhaustively studied and analyzed by Dr. Cowles in his classical work on Neurasthenia. Delusions follow, based upon suspicion, and the patient passes either into melancholia or mania, with an undercurrent of delusions.

Hallucinations of the special senses may appear in any case

of mental disease. They should be mentioned because the reality to the patient of these so-called "imaginary" voices or visions is not appreciated. Nor is their significance understood. The patient who complains of torture by electricity is undoubtedly influenced by paraesthesiae, and disorders of peripheral nerve function are surprisingly frequently associated with alcoholic states. The attitude and manner of the patient often suggest sensory disturbances, and lead to knowledge of the train of thought. In acute cases, hallucinations are most strongly indicative of the perversion of nerve-cell function arising from toxic conditions.

The psychoses of old age present a definite class, which may now be omitted from discussion. Yet there is no greater revelation of mechanical cerebral action than the gradual recession of memory into the past and the disappearance of all capability to receive impressions of current events, in the brain undergoing the process of involution.

There is no more suggestive fact of the physical basis of mental disease than the rise and fall of symptoms. Medical authors have described three stages in the course of fevers, the *stage of invasion*, the *fastigium*, and the *stage of decline*. These stages are often well defined, especially in typhoid fever, and in each is a daily fluctuation. The sources of these variations are not known though they may be subject to speculation. The analogies, however, are striking. Periodicity is the law of action of the nervous system, and the remissions of temperature in typhoid fever, a purely physical disease, the exacerbations of pain in neuralgia, which may be a mental or physical ailment, and the fluctuations in intensity of mental disorders are suggestive facts. The diagnosis of typhoid fever having been established, the prudent physician anticipates its course—a gradual elevation of fever and associated constitutional conditions—and plans a campaign of management. Most fortunate for the mental patient were the same course followed!

The incipient stage of mental disease represents the struggle of the mind against the Abbot of Unreason, if we may borrow the phrase of an old Scottish pleasantry. Each successive invasion of the morbid train of thought is resisted more feebly, until, disease dominating, the fastigium reveals an almost continuous course of symptoms. With the decline of disease normal mental action appears at lessening intervals until finally con-

valescence is established. Whether mental disease may be aborted with any greater success than a fever is questionable, but there is no doubt that, just as a fever, its manifestations may be controlled and its difficulties lightened by appropriate treatment.

The problem of the management of a mental case is most vexatious. It has been the custom to await the outbreak of violence and then hale the victim before a magistrate. Sometimes, it is unpleasant to say, this exaggeration of symptoms has been cultivated by the treatment, or even voluntarily encouraged, that inconvenient or threatening conditions may be relieved. Misconception of the symptoms has also arisen from ignorance of the subjective reality to the patient of his nervous impressions. If the cortical structures which represent the outline of a snake are in action, the reality to the patient is none the less if the excitation arises from a poison acting upon him than if they originate in the operation of the ocular apparatus. Argument with the patient upon this is not only fruitless but harmful. Expectation of recovery lies not in controversy, but in the restoration of normal physiological function in the nervous system. This is to be accomplished not by words but by food. Knowledge of mental symptoms is valuable to the physician as indicating the possible or probable demonstrations of the patient. In treatment discussion of these symptoms should be avoided, as any suggestion, whether affirmative or negative, still centres the attention upon the abnormal ideas. If the surroundings of the patient are satisfactory, if the family can be taught the intelligent practice of this principle, and if measures of physical relief can be properly carried out the patient may be treated successfully at home. Unfortunately these principles of therapy, mental and physical, are not easily learned in one lesson, and a house cannot be extemporaneously converted into a hospital. But the legal commitment of a patient suffering from an acute and probably curable disease to an institution for the insane, is a reflection upon the progress attained in popular knowledge of this subject. Separation from friends who have sympathy and understanding of his character and feelings, is a serious undertaking. It is undoubtedly the last step toward a prolonged and perhaps incurable disease. If it is necessary, it should be done with the least possible ceremony and break. If removal to the hospital is made, the friends should accompany the patient and remain in close touch with the physicians and the case, until the critical period has passed. Great difficulties attend the treat-

ment of a mental case in the home, but the application of all the rules which ordinarily govern the treatment of the sick should be as closely followed for mental as for other disease.

The question of drugs is always delicate, and to be approached with caution. Upon it has waged a contention as old as the history of medicine, and the dispute is not likely to be settled now by academic utterance. When Alexandria was at the height of power and the centre of the culture of the world, when Euclid formulated his imperishable theorems, and art and science reached a height not yet surpassed, Herophilus, the pioneer anatomist, and Erasistratus, the botanist, initiated the two schools which continue widely separated and aggressively positive to-day. The early case of mental disease surely presents a tempting opportunity to the enthusiastic therapist. Insomnia, anorexia, dyspepsia, pyrexia, bradycardia, tachycardia, arrhythmia, low tension, high tension, dyspnoea, anuria, hyperuria, and a host of minor ills, salute the bulging bag of remedies fortified by the laudatory literature of foreign tongues. Into the seductive area the triturate therapist strides with confidence, the nihilist creeps with caution. Experience guides, and each recalls earlier successes. Whatever the outcome, to each remains the solace of "the silent magnanimity of Nature."

"Thou speak'st like a physician, Helicanus;
Who minister'st a potion unto me,
That thou would'st tremble to receive thyself."

In conclusion certain facts may be restated for emphasis:

So-called mental disease is an abnormal manifestation of the mind due to a pathological condition of the nervous system.

Functional disease of the nervous system follows certain physical laws, of which the most important are fluctuations in intensity, or remissions, during a course of development, height and decline.

The natural course of mental disease should not be complicated by injudicious and symptomatic treatment, particularly by excessive medication.

The victim of mental disease should be treated as a sick person. If it is necessary to remove him from home, this should be accomplished with as little formality as possible, and the ties of kindred should not be severed. The helpful and reassuring influence of his family, under medical guidance, should be utilized as far as is consistent.

ANAESTHESIA IN NORMAL LABOR.

By PAUL T. HARPER, M. D.

It is not the purpose of this article to advocate the routine use of anaesthesia in normal labor. The procedure is urged solely to decrease suffering and make possible delivery with least danger of injury to the maternal tissues. It presupposes there is suffering that may be relieved, when its use needs no argument. Anaesthesia is urged with the belief that it is the operator's most efficient aid in maintaining the integrity of the pelvic floor, to which the woman is entitled but which she is too commonly denied.

The simple injuries of childbirth such as rupture of the fourchet and small mucous abrasions are inevitable on occasion in spite of all care. The "notable lacerations" of labor, namely, those of the perineal body or of the mucous membrane of one or both vaginal sulci, involving as they may the sphincter and as they do the muscle and facial layers of the pelvic floor, are but little less frequent and are the more important both during and following the puerperium. For puerperal infection through vaginal and perineal lacerations may occur even though appropriate treatment by suture be applied at the time. Whether treated or untreated, discomfort and plastic operations too often follow. If "at least one-half the pelvic floor injuries occurring in general obstetrical practice are preventable by the skilful management of the perineal stage of labor" (Jewett) there is apparent need of urging attention to this particular step in delivery.

That such a charge is found necessary seems to be due essentially to a lack of a true appreciation of the various etiological factors of such traumatism rather than to an indifference on the part of practitioners in meeting them.

In general, injuries in labor are occasioned by disproportion between the size of the presenting part and that of the outlet, faulty mechanism, and too rapid advance and delivery of the presenting part.

Absolute disproportion will obtain in a limited number of

cases. Malformations of the foetus and the equally rare "rigid perineum" are instances. The physician's power to alter these conditions is limited. But to ascribe lacerations in general, as is too frequently done, to simple disproportion is hardly warranted. For on one hand it presumes that nature does not do as well for the woman in fitting the passenger to the outlet as she does for her in the way of presentation and mechanism which are so rarely abnormal. On the other hand the physician may feel relieved of the real responsibilities of this particular stage of labor and be correspondingly less zealous in perfecting his management of it.

The faulty mechanism is uncommon and, when occurring, is susceptible to change, or at least modification, by the operator.

In all but the exceptional case, traumatism may be expected when the ends of nature to a successful termination of the perineal stage of labor have been defeated by too rapid advance and delivery of the presenting part. Here gradual dilatation of the lower tract and outlet by the steadily advancing and receding head and the latter's subsequent escape by its smallest diameters have not obtained.

To control completely the advance of the presenting part, the patient even though co-operating perfectly is powerless. The operator may not expect to overcome the power of uterine contraction by counter-pressure, for rarely can the proper force be applied at the time or in such a manner as to be really effectual. Often it would be undesirable to do so if able. The advance must be controlled by some other means, leaving the operator free so to direct the expelling forces that the presenting part, by its smallest diameters, may be brought through the center of the vaginal opening. The use of anaesthesia both assures absolute control over the advance and delivery of the presenting part and makes possible the relief of pain.

Anaesthesia is practically never indicated in the first stage for the conditions for which its use is urged do not obtain.

The termination of the second stage becomes *speedy* as the contractions both of uterine and abdominal muscles are efficient. It is *satisfactory* (a) as the patient experiences a minimum of suffering, (b) as the outlet is gradually distended and (c) the head subsequently delivered without injury to the maternal soft parts.

There are two muscular forces concerned in terminating the second stage; the involuntary is unsatisfactory without the voluntary. Over the latter the patient has, within limits, complete control. These limits are definite and are determined both by the gradually increasing intensity of the subjective "pains" and by the manner in which they are borne. To secure the maximum efficiency from the combined forces, the actual suffering or the fear of it may demand relief. The patient's co-operation becomes all the more efficient if she knows this relief may be given her. In general, a patient who has been assured and encouraged during labor may be expected to co-operate with the physician to the fullest extent. She more fully appreciates the use of the anaesthetic and may be depended upon to call for it only when her pains are quite unbearable. When assurance or mild restraint has failed to quiet a disorderly patient, anaesthesia given with the pains as needed makes more possible the co-operation sought and at least affords the operator every advantage of a quiet and uncontaminated field.

(a) There still exists the common indication to terminate the stage with a minimum of suffering. The patient should be told the purpose of the anaesthesia and asked to take as little as possible. She may be told to ask for the anaesthetic when she is sure a hard "pain" is coming, when two or three inhalations of moderate depth may be allowed with the knowledge that the subjective "pain" has been markedly relieved and the depressing effect upon the strength of the uterine contraction (if there be any) has amounted to practically nothing. The usual amount of anaesthetic on the inhaler need not be increased and often the mere odor of the drug has pronounced effect.

(b) The gradual distention of the perineum by the alternately advancing and receding head appears to be the most important single factor in successfully terminating the perineal stage of labor. Fortunately it commonly obtains.

In this connection there may be mentioned certain results of delivery which the physician may have found it difficult to account for. For instance, laceration may have occurred where little or no relative disproportion has existed between the size of the child's head and that of the outlet; the child may possibly have been under average weight. Again a forceps operation, by which the patient has been delivered of a child considerably above average weight, may have been attended by no apparent

injury to the pelvic floor. The very condition that perhaps called for forceps in the latter instance, namely the presence of the head low down in the birth canal but without progressive advance, has been the prominent factor in securing gradual dilatation of the outlet and making the outcome so satisfactory. While the short but tumultuous second stage (so frequently followed by a similar result), that may have occurred in the former instance, has made quite impossible the gradual dilatation sought. Such instances are not infrequent nor are they unfamiliar to the practitioner who must appreciate that laceration is not infrequent where the child is neither absolutely nor relatively large.

As has been stated, the distension of the perineum is commonly gradual. On occasion however pains may be so violent and may recur with such frequency that gradual dilatation of the outlet is impossible. The caput may appear only at the height of two or three such pains, the following contraction being of sufficient strength to force the head against and through a thin perineum that might easily have stretched had the advance been less precipitate. Such undue advance should be anticipated. The co-operation of the patient cannot be depended upon to control it; counter-pressure is both inefficient and difficult. It can be controlled and an occasional precipitate delivery prevented by anaesthesia.

(c) That the head may be delivered with the least danger of injury to the perineum requires absolute quiet of the patient and perfect control by the physician over the advance of the head. These two conditions are essential. The particular method of delivering the head is immaterial provided the expelling forces be so directed that the head escape by its smallest diameters. With the brow "controlled," the head no longer recedes between the pains. If the patient may be depended upon to relax completely, but two or three breaths of moderate depth are commonly required to secure the complete anaesthesia necessary to prevent further advance, to assure a quiet patient, make possible advance of the head only as desired and grant the physician every facility for his work. With a patient from whom the physician may expect no aid, the progress of the latter part of the second stage must be carefully followed by the anaesthetist and the patient carried along under light primary anaesthesia for what may be presumed to be the last few min-

utes (of the stage) that, at a given signal, complete anaesthesia may be secured without delay.

Certain facts in connection with the use of anaesthesia in labor are urged. Its use is general. It will be granted that the minimum amount required is commonly exceeded. The same care in its administration is not observed as in major surgery for unfortunately delivery has not yet come to be looked upon as a vaginal operation, peculiarly open to the common dangers of hemorrhage and infection, in which serious complications quickly arise. Its administration is too often left to one not fully competent or, when competent, to one whose attention is not centered upon the patient herself.

It is further observed that the anaesthetic is readily taken by the patient, the physiological effect being soon attained and when the anaesthetic is removed readily recovered from, and in obstetrical doses there is commonly no interference with the efficiency of the uterine contractions during labor or following delivery. The foregoing assertions may need support. In several chloroform and ether narcoses for Caesarean section it was noted that complete anaesthesia was quickly secured without any characteristic psycho-motor stimulation and maintained with practically no modification of respiratory effort and with a pulse of one hundred or lower. Under anaesthesia to the obstetrical degree, palpation fails to elicit any diminution in the strength of uterine contraction. Since the subjective "pain" is experienced as the muscular contraction is well set up in response to the earlier nervous stimulus, any measure applied to relieve an *effect* of the contraction (as the "pain") would scarcely be expected to diminish the preceding *cause* of the "pain" (namely the strength of contraction). Firm contraction following a *complete* emptying of the uterus of its contents is quite the invariable rule even though the child may show mild asphyxia livida from the anaesthetic administered and the patient herself may not rouse sufficiently for several minutes to converse intelligently. If this were not true, hemorrhage from imperfect uterine contraction following forceps, breech delivery and other operative procedures *requiring* anaesthesia would be common. Post-partum hemorrhage in such cases is unlooked for.

There is urged against anaesthesia the risk involved. There exist the same contra-indications as obtain in major surgery

though to a less extent because, if anaesthesia as urged is given discontinuously during the second stage and but for a few moments continuously at the birth of the head, the amount absorbed over a relatively long time is correspondingly small. Even in view of such an apparent contra-indication as an uncompensated cardiac lesion, the danger to the patient that the uncontrolled suffering of a prolonged second stage entails must be carefully considered before anaesthesia is finally rejected. Similar conditions may be met in general surgery by local anaesthesia. Such treatment cannot be applied to the case in view.

That the parturient woman bears anaesthesia well is common experience. To the various physiological explanations of the fact there might be added one based upon the mental attitude of the patient. From close observation of a few hundred anaesthetics in major surgery it seemed clear that, within certain limits, anaesthesia was readily attained, recovered from with the greatest freedom from discomfort and the conduct during the operation approached more the ideal as the patient met the situation willingly and with less apprehension. The woman in labor often requests and has with the rarest exceptions refused anaesthesia.

Granted we are dealing with a normal labor following an uncomplicated pregnancy and that the anaesthetic is to be skillfully administered, the choice between ether and chloroform is largely a matter of individual preference. Ether is unquestionably the safer drug. If because of the relatively small amount of anaesthetic required anaesthesia is to be considered indifferently, chloroform is not to be recommended. Because of a general prejudice against chloroform, based upon an unhappy past history and so perhaps deserved, ether might well be considered the anaesthetic of choice especially when assistants are limited both in numbers and efficiency; although chloroform as a rule is found to act more quickly, to be more readily recovered from, more agreeable and (for this reason probably) more welcome to the patient. The unpleasant chloroform burn must be borne in mind.

It is essential that the minimum amount of anaesthetic be administered and in a way least dangerous to the patient. The theoretical objection to anaesthesia in general and to chloroform in particular exists and must always be considered. It must be

assumed that any disaster that may occur in labor where anaesthesia is employed will be charged by some to its use. Far from constituting a contra-indication, the objection has absolute value in safeguarding the patient's interests and assuring more careful administration.

The greatest danger in chloroform anaesthesia arises in the early stage of the narcosis. At the height of a severe second stage pain the patient is breathing deeply and ordinarily, if allowed, would drink in the vapor. Care must be taken to administer the anaesthetic gradually, having always in mind that one part chloroform vapor should be diluted with ninety-nine parts of air for safety and aiming at no time to increase the concentration. The wisdom of bringing the inhaler gradually toward the face and only in exceptional cases ever allowing the inhaler to rest upon it is apparent. If three inches is allowed between the inhaler and the face, the danger of overdosing at any time is practically impossible.

Fully appreciating the responsibilities of anaesthesia, the question whether a physician or a competent nurse shall administer the anaesthetic is of less importance than that of the *entire attention* of the anaesthetist which should be directed at all times toward the patient. Burn by the anaesthetic is more satisfactorily guarded against as the patient's eyes, forehead and cheeks are covered by a towel, folded at right angles and carried along the sides of the nose, and as the inhaler is kept at a distance from her face.

A delivery that has been accomplished with as little suffering by the mother as is possible, within a time that has been at least relatively shortened, where a quiet patient has given the physician every facility for his work in delivery and made it possible to preserve the cleanest field, amply repays the operator for the increased responsibility the anaesthesia has placed upon him.

The dangers associated with the use of anaesthesia in labor are slight and become even less as the most scrupulous care is taken in its use. The benefits to the mother are great. Why is not its indication clear in cases where pain demands relief and the maternal tissues can be spared injury by its use?

Editorial

THE blind leper was now about half-way towards them, and just then the sun rose and shone full on his veiled face. He had been a tall man before he was bowed by his disgusting sickness, and even now he walked with a vigorous step. The dismal beating of his bell, the pattering of the stick, the eyeless screen before his countenance, and the knowledge that he was not only doomed to death and suffering, but shut out forever from the touch of his fellow-men, filled the lads' bosoms with dismay; and at every step that brought him nearer, their courage and strength seemed to desert them.

ROBERT LOUIS STEVENSON.

The Black Arrow.



An Immunizing Serum for Leprosy

After protracted investigation efforts to combat leprosy by an immunizing serum promise a successful issue. The details and technique of the work done are set forth in an article, entitled "The Cultivation of the Leprosy Bacillus and the Experimental Production of Leprosy in the Japanese Dancing Mouse," by Dr. Charles W. Duval, in the *Journal of Experimental Medicine*, of September 1, 1910.

In previous attempts to grow the bacillus leprae, fragments of infected leprous tissue were transferred to the culture media employed. Clegg in 1909 successfully grew acid fast bacilli from leprous tissue in conjunction with amoebae and their symbiotic bacteria. Sugai first produced the disease, leprosy, experimentally, by inoculating the Japanese dancing mouse with infected human material and obtained typical lesions, both gross and microscopic.

The author obtained material for experimental work from the cases at the State Leper Home in New Orleans. The leprous tissue was removed under sterile precautions, seared in a free flame, and incised. The central part was macerated with a sharp curette and the tissue juice suspended in sterile salt solution. This suspension was used as a means of obtaining the bacilli in culture. First, smear preparations were made which showed the presence of acid fast bacilli; secondly, sections of the tissue were fixed in Zenker's fluid and stained appropriately for the detection of acid fast bacilli in them. These microscopic sec-

tions revealed a characteristic grouping of the bacilli within cells. The bacilli formed masses that were similar to "packets of cigarettes," but the usual arrangement was in the form of concentric growths. The association of the bacilli with cells led to the belief that the cells furnished some form of nutriment for the bacilli, possibly a nuclear ferment or globulin. Consequently, in the preparation of an artificial medium, the end products of cell metabolism and of proteid digestion were used.

Duval successfully repeated the previous work in growing the bacillus leprae obtained from emulsion of tissue on agar medium in conjunction with amoebae, bacillus influenzae and the meningococcus. The best growth was obtained at a temperature of thirty-two to thirty-five degrees centigrade. It was observed that the leprosy bacillus grew as well in the presence of the encysted form of the amoebae as in the presence of its vegetative form. The attempt was next made to cultivate the bacillus leprae on media without living organisms. The media employed contained such products as tryptophane, cystein, and leucein with a view of supplying an artificial food similar to that within the tissues. Since excessive oxidation was necessary the banana was selected as of suitable form and structure. The rind was removed from the banana and a slanting surface was made with a sharp knife. It was then placed in a glass cylinder provided at the bottom with cotton plugs saturated in sterile distilled water. Sterile one per cent. solution of tryptophane, cystein, and leucein were each poured over the banana until it became saturated.

Nutrient agar was also mixed with similar solutions. Cystein proved an excellent medium for the cultivation of the bacillus leprae, when incubated at thirty-two to thirty-five degrees; the maximum growth was at thirty-two degrees centigrade. Better growth was obtained in glass incubators. Positive growths developed in the form of small, glistening, white colonies, in from four to six weeks. Multiplication in vitro of an acid fast organism was obtained from the transplanted leprous tissue both in the original cultures and subcultures. The organisms corresponded in every detail to the bacillus leprae. The colonies are of a glistening, greyish white color, elevated and two millimeters in diameter. They are heaped up in the center and are broken up with difficulty.

Guinea pig, rabbits, and rats were employed to determine the

pathogenicity of the bacillus leprae. The results were negative. The Japanese dancing mouse, however, after subcutaneous and intraperitoneal injection, developed typical leprous lesions in from four to eight weeks. The results were positive in the animals not only where the inoculations were made with emulsions from the human leprous tissue, but also with the artificial cultures and subcultures.

Cultures, many generations removed from the parent stem and more than six months under artificial cultivation, gave rise to lesions in the Japanese mouse about as quickly as the bacilli of the primary culture or those of the human tissue.

The author, as a result of successful cultivation of the bacillus leprae and successful experimental production of the disease in animals, is confident in the possibility of an artificial immune serum.

BERNSTEIN.

Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF HEALTH, ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, OCTOBER, 1910.

Deaths.

Consumption.	16
Typhoid fever	1
Scarlet fever	0
Measles.	0
Whooping-cough.	1
Diphtheria and croup.	1
Grippe.	0
Diarrheal diseases	4
Pneumonia.	6
Broncho-pneumonia.	4
Bright's disease	14
Apoplexy.	12
Cancer.	12
Accidents and violence.	6
Deaths over 70 years.	29
Deaths under one year.	30
<hr/>	
Total deaths	139
Death rate	16.35
Death rate less non-residents.	13.88

Deaths in Institutions.

	Resident	Non-Resident
Albany Hospital	6	8
County House	3	4
Homeopathic Hospital	9	2
Child's Hospital	0	1
Public places	0	0
St. Margaret's House.....	3	1
St. Peter's Hospital.....	2	4
Austin Maternity Hospital.....	3	1
Little Sisters of the Poor.....	1	0
Albany Hospital, Tuberculosis Pavilion.....	2	0
House of Good Shepherd.....	2	0
Confederation of Labor.....	1	0
Totals.	32	21
Births.		71
Still births		7
Premature births		2

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

In the Bureau of Plumbing, Drainage and Ventilation, there were two hundred forty-seven inspections made of which fifty-five were of old houses and one hundred eighty-two of new houses. There were seventy-seven iron drains laid, forty-four connections to street sewers, forty-three tile drains, seventy-nine cesspools, one hundred twenty-three wash basins, one hundred forty-five sinks, one hundred sixteen bath tubs, one hundred twenty-four washtrays, and one hundred sixty-four tank closets. There were one hundred seventy-nine permits issued of which one hundred forty-one were for plumbing and thirty-eight for building purposes. There were thirty-seven plans submitted of which ten were of old buildings and twenty-seven of new buildings. Seventy-two houses were tested, four with blue or red, seven with peppermint and there were sixty-one water tests. Thirty-three houses were examined and fifty-five were re-examined. Fifteen complaints were found to be valid and eighteen without cause.

BUREAU OF CONTAGIOUS DISEASE.

Cases Reported.

Typhoid fever	9
Scarlet fever	10
Diphtheria and croup.....	18
Chickenpox.	2
Infantile paralysis	2
Measles.	1
Whooping-cough.	0
Consumption.	28
Total.	70

Contagious Disease in Relation to Public Schools.

	D.	S.
Public School No. 1.....	1	.....
Public School No. 6.....	1	.....
Public School No. 8.....		1
Public School No. 10.....	1	.....
Public School No. 16.....		1
Public School No. 17.....		1
Public School No. 21.....	1	.....
St. Patrick's School.....	5	1
Cathedral School		1
Number of days quarantine for diphtheria:		
Longest..... 24	Shortest..... 12	Average..... 17 6/13
Number of days quarantine for scarlet fever:		
Longest..... 50	Shortest..... 15	Average..... 33 1/15
Fumigations:		
Houses..... 36	Rooms.....	138
Cases of diphtheria reported. . .		18
Cases of diphtheria in which antitoxin was used.		17
Cases of diphtheria in which antitoxin was not used.....		1
Deaths after use of antitoxin.....		0

BENDER LABORATORY REPORT ON TUBERCULOSIS.

Positive.	25
Negative.	24
Failed.	1
Total.	50

TUBERCULOSIS.

Living cases on record October 1, 1910.....	334
Reported during October:	
By telephone.	0
By Bender.	0
By card.	27
	27
Dead cases reported by certificate.....	8
	35
	369
Dead cases previously reported.	7
Dead cases not previously reported.....	8
Duplicates.	0
Recovered.	1
Removed.	1
	17
Living cases on record November 1, 1910.....	352
Total tuberculosis death certificates filed October, 1910.....	15

BUREAU OF PATHOLOGY.

Bender Laboratory Report on Diphtheria.

Initial positive.	10
Initial negative.	41
Release positive.	24
Release negative.	54
Failed.	10
<hr/>	
Total.	139
Test of sputum for tuberculosis:	
Initial positive.	27
Initial negative.	27

MISCELLANEOUS.

Mercantile certificates issued to children.....	28
Factory certificates issued to children.....	20
Children's birth records on file.....	48
Number of written complaints of nuisances.....	38
Privy vaults	3
Plumbing.	19
Other miscellaneous complaints.....	16
Cases assigned to health physicians.....	66
Calls made	177
Total number of dead animals removed.....	791

Medical News

Edited by Arthur J. Bedell, M. D.

THE ALBANY GUILD FOR THE CARE OF THE SICK—DEPARTMENT OF VISITING NURSES—STATISTICS FOR OCTOBER, 1910.—Number of new cases, 144; classified as follows: Dispensary patients receiving home care, 10; district cases reported by health physicians, 6; charity cases reported by other physicians, 43; moderate income patients, 85; old cases still under treatment, 124; total number of cases under nursing care during the month, 268. Classification of diseases for the new cases: Medical, 36; surgical, 13; gynecological, 1; obstetrical under professional care, mothers 42, infants 39; infectious diseases in the medical list, 13; removed to hospital, 6; deaths, 7.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 1; medical students in attendance, 4; Guild nurses in attendance, 10; number of new patients, 6; number of patients discharged, 5; visits by attending obstetrician, 3; visits by students, 38; visits by nurses, 47; total number of visits for this department, 88.

Visits of Guild Nurses—(all departments): Number of visits with nursing treatment, 1,586; for professional supervision of convalescents,

289; total number of visits, 1,875; cases reported to the Guild by three health physicians and forty-eight other physicians, graduate nurses 8, and pupil nurses 13 on duty.

South End Dispensary Report—Number of clinics held, 98; number of new patients, 129; number of old patients, 389; total number of patients, 518. Classification of clinics held: Surgical, 11; nose and throat, 9; eye and ear, 15; lung, 17; skin and genito-urinary, 7; stomach, 2; medical, 12; children's, 12; gynecological, 9.

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.—A regular meeting of the Medical Society of the County of Schenectady was held at the County Court House, Wednesday, November 9, 1910, at 8.30 p. m. Scientific program: "Syphilis, an Historical Sketch with a Demonstration of the Spirocheta," by Dr. Warren E. Stone.

MEDICAL SOCIETY OF THE COUNTY OF COLUMBIA.—The annual meeting of the Columbia Medical Society was held in Hudson, N. Y., October 26, at Worth House. Dr. John G. Gutmann of Albany, N. Y., presented a paper on "Pes, Planus; Diagnosis and Treatment," followed by "The Significance and Therapeusis of High Pressure States," by Dr. James F. Rooney, of Albany, N. Y.

THE SISTERS OF MERCY in charge of St. Peter's Hospital held a private inspection of the new addition to the hospital and a reception to the officers and workers of St. Peter's Hospital Relief Campaign on Saturday evening, November 19, 1910, at 7.30.

PUBLIC HEALTH—LABORATORY COURSES.—In addition to the regular courses in bacteriology and of sanitary water analyses, which are offered for every week of the year to health officers of the State, the department announces a special course of three days' duration on the subject of water and sewage purification. The first of these courses is offered for next December, beginning on Wednesday, December 7, 1910, at the State Hygienic Laboratory, 278 Yates street, Albany, with the following program:

Wednesday—9-10 a. m., laboratory talks and demonstrations, Dr. Magill and Mr. Wachter of the laboratory staff: "The Chemistry and Biology of Water Filtration Methods." 10.30-12, conference, Mr. Theodore Horton, chief engineer: "Water Filtration" (sterilization). 1.30 p. m., inspection of the water filtration plant at Rensselaer. This plant permits the demonstration of the rapid or coagulant-mechanical method of water filtration. 5 p. m., conference with questions and answers, Mr. H. B. Cleveland, principal and assistant engineer: "Pure Water and Methods of Disposal of Wastes for Isolated Houses."

Thursday—9.30-10.30 a. m., laboratory talks and demonstrations: "Chemistry and Biology of Sewage Disposal Processes." 10.30-11.30 a. m., conference, Mr. Horton: "Methods of Sewage Disposal for Municipalities." 12.50 p. m., inspection of water filtration plant at Albany. Opportunity is here offered to observe in detail the successive steps of the method of slow sand filtration at a plant of demonstrated efficiency.

Friday—Railroad station, train 8.45 a. m. to Ballston Spa. 9.30 a. m., inspection and demonstration of the sewage disposal system at Ballston. The process here in use consists of septic tanks and contact filters. 12 m., dinner at Saratoga. 2 p. m., inspection and demonstration of the sewage disposal plant at Saratoga. The system in operation here is typical of the septic tank and intermittent and sand filter processes.

NEW YORK AND NEW ENGLAND ASSOCIATION OF RAILWAY SURGEONS.—The twentieth annual session of the New York and New England Association of Railway Surgeons was held at the Hotel Astor, New York City, on November 3rd and 4th, under the presidency of Dr. L. M. Bingham, of Burlington, Vt., chief surgeon of the Rutland railroad. Dr. John B. Deaver, of Philadelphia, delivered the address in surgery.

The following officers were elected for the ensuing year: President, Dr. F. A. Goodwin, Binghamton, N. Y.; first vice-president, Dr. Walter Lathrop, Hazelton, Pa.; second vice-president, Dr. John W. LeSeur, Batavia, N. Y.; corresponding secretary, Dr. George Chaffee, Brooklyn, N. Y.; recording secretary, Dr. C. A. Pease, Burlington, Vt.; treasurer, Dr. J. K. Stockwell, Oswego, N. Y.

STUDENT VOLUNTEER MOVEMENT FOR FOREIGN MISSIONS.—Faithful men and women physicians are needed immediately for missionary service under the direction of the Student Volunteer Movement. China, Africa, Japan and India are offered as most attractive fields. A small salary with all expenses paid is the compensation.

THE COMMITTEE ON THE PREVENTION OF TUBERCULOSIS, State Charities Aid Association, offer big prize for public schools. A vacuum cleaning plant for installation in a public school has been given as first prize by the McCrum-Howell Company of New York, to go to the city having the largest sale of Red Cross Christmas Seals. The only condition imposed upon the donor is that the winner of the prize must be a public school. The second and third prizes have not been decided upon, nor have the judges been finally selected. The prize will be awarded on the basis of number of seals sold per capita of school population. In making the announcement the State Charities Aid Association points out that although contests among school children are generally frowned upon by school men, it believes that a contest of this kind will necessitate the constant preaching of school sanitation, for a prize awarded to schools to improve school sanitation, and not to individual pupils is not only justified, but is a powerful agent for educating the public to an appreciation of the value of school hygiene. The slogan for the sale this year is "\$100,000 for Tuberculosis in New York State." Last year the sale amounted to \$30,000. With the school contest and other similar methods of pushing publicity for the sale, it is expected that the proceeds this year will more than treble those of last year. Millions of Red Cross Seals are already distributed and by December there will be 75,000,000 sent out.

THE AMERICAN PUBLIC HEALTH ASSOCIATION—which includes the United States of America, the Dominion of Canada, the Republic of Mexico, the Republic of Cuba—will hold its 1911 meeting in Havana, Cuba, from December 4 to 9. The prospect of having the Association again in Havana has aroused the warmest interest among the physicians there, the secretary of sanitation, Dr. Varona, being particularly interested. The Academy of Medicine has offered its building for the general section meetings. The Hotel Sevilla will be the headquarters of the Association. It is hoped at this meeting that the recently organized Sociological Section, and the Section on Sanitary Engineering, which was tentatively authorized by the Milwaukee meeting, may be put upon substantial foundations.

THE AMERICAN SOCIETY OF MEDICAL SOCIOLOGY.—The American Society of Medical Sociology has been organized for the purpose of studying radically all questions of a socio-medical nature, and invites co-operation.

Some of the questions which are under investigation by the members at the present time are:

The need of a federal department of health. Tuberculosis as an economic disease. Is there any demonstrable relationship between the strain of our modern life and the increase of insanity? Is cancer on the increase, and if so, what are the probable etiologic factors? What are the best, i. e., the most humane and most effective methods of dealing with prostitution? The best methods of preventing venereal infection? Is complete sexual abstinence (a) likely to impair the general health? (b) likely to result in impotence? The relative influence of heredity and environment on the physical, mental and moral characteristics of the offspring. The question of marriage and divorce. Is the regulation of conception morally justifiable, and if so, what are the best methods? Abortion in its medical and ethical aspects. Alcohol (a) as a beverage, (b) as a medicine. Its physiologic, medicinal, social and economic effects. Infant mortality. Its principal causes and prevention. Occupational or trade diseases. Food adulterations and their influence on health. The causes of quackery, Christian science and other cults, and the influence of the irregular cults of medicine on public health.

The results of these investigations will be disseminated by means of meetings, lectures, reports, pamphlets, etc.

Any who wish to study socio-medical questions and wish to join the Society, may apply to the American Society of Medical Sociology, 12 Mt. Morris Park W., New York.

TO CURB INSANITY.—A special Committee on Mental Hygiene of the State Charities Aid Association announces the beginning of a State-wide campaign of education on the causes of insanity. The motto of this new crusade seems to be the homely old maxim, "An ounce of prevention is worth a pound of cure," for the committee says it will aim to spread popular knowledge on the prevention and cure of the "causes" of insanity rather than to increase the facilities for the cure of insanity itself.

Among those causes are mentioned bad mental habits, degenerating into melancholia, "shut-in personality," over-work, nervous strain, improper and too late treatment of nervous prostration or nervous breakdown, isolation, alcoholism and a germ disease spread by the social evil, which has hitherto received little attention.

The new Committee on Mental Hygiene states that its campaign will be conducted on lines similar to the crusade against the great white plague, which the Committee on Tuberculosis, of the same association is conducting in co-operation with the State Department of Health.

That campaign has stirred New York State to an appreciation of the terrible social drain of one preventable disease and the State Charities Aid Association will add new laurels to modern philanthropic activity if it can, even in a small measure, arouse the public to a similar understanding of those equally preventable, although less clearly defined causes which undermine the mind's vitality and bring suffering and death to thousands of families.

BIRTH REGISTRATION PROPAGANDA.—At the first meeting of the Advisory Board recently appointed by Health Commissioner Lederle of New York city to prepare recommendations for the improvement of vital statistics in that city, one of the members of which Board is Dr. Cressy L. Wilbur, chief statistician for Vital Statistics, of the Bureau of the Census, a recommendation was adopted unanimously to the effect that the most important improvement which could be made in the vital statistics of New York city consists of the verification of the birth registration of every infant dying under one year of age, in order to detect omissions, and strict enforcement of the law providing a penalty for an omission to record a birth in every case thus brought to light.

New York is one of the few cities in the United States having even an approximately complete registration of births, and this action is likely to result in complete registration and so bring its birth statistics up to the standard found in other countries.

The Census Bureau is greatly interested in this movement because, as shown in the series of charts prepared for the American Association for Study and Prevention of Infant Mortality, to be held at Baltimore this week, one of the greatest defects of American vital statistics is the entire lack of reliable rates of infant mortality due to defective birth registration.

ARMY MEDICAL CORPS EXAMINATIONS.—The Surgeon-General of the Army announces that the first of the preliminary examinations for the appointment of first lieutenants in the Army Medical Corps for the year 1911 will be held on January 16, 1911, at points to be hereafter designated.

Full information concerning the examination can be procured upon application to the "Surgeon-General, U. S. Army, Washington, D. C." The essential requirements to securing an invitation are that the applicant shall be a citizen of the United States, shall be between twenty-two and thirty years of age, a graduate of a medical school legally

authorized to confer the degree of doctor of medicine, shall be of good moral character and habits, and shall have had at least one year's hospital training or its equivalent in practice after graduation. The examinations will be held concurrently throughout the country at points where boards can be convened. Due consideration will be given to localities from which applications are received, in order to lessen the traveling expenses of applicants as much as possible.

The examination in subjects of general education (mathematics, geography, history, general literature, and Latin) may be omitted in the case of applicants holding diplomas from reputable literary or scientific colleges, normal schools or high schools, or graduates of medical schools which require an entrance examination satisfactory to the faculty of the Army Medical School.

In order to perfect all necessary arrangements for the examination, applications must be complete and in possession of the Adjutant-General on or before January 2, 1911. Early attention is therefore enjoined upon all intending applicants. There are at present seventy-six vacancies in the Medical Corps of the Army.

PRACTICAL TREATMENT.—W. B. Saunders Company now have going through their presses a three volume work on Practical Treatment, written by international authorities and edited by those able clinicians, Dr. John H. Musser and Dr. A. O. J. Kelly, both of the University of Pennsylvania.

In looking over the list of contributors we can come to but one conclusion; namely, that this work will undoubtedly take rank as the very best on Treatment extant. The names of the authors carry with them the positive assurance of thoroughness. Indeed, each chapter is a complete monograph, presenting the most recent therapeutic measures in a really practical way.

As the general practitioner is required to know certain therapeutic measures more or less of a surgical nature, leading surgeons have been selected to present such subjects. This is an important feature, and, to our knowledge, not included in any similar work.

In every case the men have been most aptly chosen for their respective tasks, and under the wise editorship of Drs. Musser and Kelly there has been produced a work on Treatment that will remain for many years the last word—a source of practical information, easily obtained and readily digested.

The work will sell for \$6.00 per volume, in sets only.

PERSONALS.—Dr. JAMES E. SADLER (A. M. C. '87), of Poughkeepsie was elected treasurer of the First District Branch of the Medical Society of the State of New York at its fourth annual meeting held in Newburgh, October 27.

—Dr. JOHN S. NEWCOMB (A. M. C. '88), has moved from Chester to Joplin, Mont.

—Dr. CHARLES BERNSTEIN (A. M. C. '94), superintendent of the State Custodial Asylum at Rome, met with an automobile accident on October 29, and is in a grave condition.

—Dr. EMMETT HOWD (A. M. C. '98), has been appointed a member of the obstetric staff of St. Joseph's Maternity Hospital, Troy, N. Y.

—Dr. EUGENE E. HINMAN (A. M. C. '99), a first lieutenant attached to the medical corps of the Second Battalion, Tenth Regiment, is shortly to be commissioned a captain.

—Dr. SAMUEL DAVID MILLER (A. M. C. 1900), has gone to Jacksonville, Fla., where he will have charge of a sanitarium.

—Dr. GERALD GRIFFIN (A. M. C. '01), has returned home and resumed practice after a prolonged illness.

—Dr. JOSEPH A. COX (A. M. C. '01), now a first lieutenant attached to the medical corps of the Second Battalion, Tenth Regiment, is shortly to be commissioned a captain.

—Dr. THOMAS CARNEY (A. M. C. '02), has been appointed a district city physician of Schenectady.

—Dr. GEORGE VAN V. WARNER (A. M. C. '02), is now located at Fair Haven, New Jersey.

—Dr. JAMES N. VANDER VEER (A. M. C. '03), now a first lieutenant attached to the medical corps of the Second Battalion, Tenth Regiment, is shortly to be commissioned a captain.

—Dr. FRANK J. NOONAN (A. M. C. '05), has been appointed a member of the medical staff of St. Joseph's Maternity Hospital, Troy, N. Y.

—Dr. HARRY RULISON (A. M. C. '05), will return with his family from Europe the latter part of November. Dr. Rulison has been studying under the foremost specialist in Europe for the past nine months, taking a postgraduate course in his specialty "Diseases of Children." He will reside temporarily at 106 Eagle street, Albany, N. Y.

—Dr. WALTER A. REYNOLDS (A. M. C. '06), has recovered from an attack of diphtheria and has resumed practice.

—Dr. ROY C. KEIGHER (A. M. C. '07), has been appointed a district city physician of Schenectady, N. Y.

—Dr. EUGENE F. MCGILLIAN (A. M. C. '09), is now at the Lying-In Hospital, New York city, after a year as resident physician in the Samaritan Hospital, Troy, N. Y.

—Dr. WAKEMAN C. EDGERTON (A. M. C. '09), has opened an office at 234 Lark street, Albany, N. Y.

—Dr. SAUL J. SELKIN (A. M. C. '10), has opened his office at 75 Hawthorne avenue, Yonkers, N. Y.

—Dr. HENRY M. GROGAN (A. M. C. '10), has resigned from the resident staff of the Samaritan Hospital, Troy, N. Y., and will succeed to the practice of Dr. S. D. Miller, at Rensselaer, N. Y.

MARRIED.—Dr. EDWARD MOSES BELL (A. M. C. '93), and Miss Martha A. Bately were married at the rectory of St. John's Episcopal church.

DIED.—Dr. RICHARD N. BEAUCHAMP (A. M. C. '50), died at his home, Russellville, Kentucky, October 10, aged eighty-seven years.

—Dr. LEONARD M. JOHNSON (A. M. C. '55), died at his home in Greene, N. Y., aged eighty years.

—Dr. WILLIAM H. NICHOLS (A. M. C. '67), died at his home West Sand Lake, N. Y., October 31, aged sixty years.

—Dr. SETH G. SHANKS (A. M. C. '75), died at the Albany Hospital, November 5, following an operation for peritonitis, aged sixty-three years.

—Dr. WILLIAM S. ACKERT (A. M. C. '91), died at his home in Poughkeepsie, N. Y., November 8.

—Dr. GEORGE S. POST (A. M. C. '99), died at Rochester, N. Y., October 25, aged thirty-eight years.

In Memoriam

WILLIAM H. NICHOLS, M. D.

DR. WILLIAM H. NICHOLS, a graduate of the Albany Medical College of the class of 1867, died at his home in West Sand Lake, N. Y., October 30, 1910, after a short illness.

Dr. W. H. Nichols was born at Northville, Fulton county, State of New York, October 20, 1846. He was graduated in the public schools, and later took up the study of medicine under the late Dr. Freeman of Albany. He began practice at West Sand Lake, Rensselaer county, N. Y., the year after graduation, and continued to practice his profession until 1908, when he retired and moved to Troy, N. Y.

In 1868 Dr. Nichols married Anna M. Lape of West Sand Lake. He was a prominent member of the Methodist Episcopal church at West Sand Lake, and was a member of the State, County, and District Medical Societies also of Greenbush Lodge F. and A. M., and Pleasant Valley Lodge K. of P. at West Sand Lake.

Dr. Nichols is survived by his widow and three children, Mrs. E. E. Strobe, Dr. W. R. Nichols and Stanley J. Nichols.

WILLIAM S. ACKERT, M. D.

WILLIAM S. ACKERT, M. D., died at his home in Poughkeepsie, N. Y., November 7, 1910, from heart disease. Dr. Ackert was born in Rhinebeck, N. Y., December 18, 1865. He was educated at the DeGarmo Institute in that place. He was graduated from the Albany Medical College in the class of 1891. After practicing his profession in Rensselaer for eight years he removed to Poughkeepsie, N. Y., where he held the respect and esteem not only of all the members of his profession but of all who knew him.

He was a member of the Poughkeepsie Academy of Medicine, of the Dutchess County Medical Society, in which he always took an active part, the New York State Medical Society and the American Medical Association.

He was attending physician to the Home for the Friendless, the Old Ladies' Home and at the Tuberculosis Hospital in which he took a great interest.

Dr. Ackert was a member of Poughkeepsie Lodge 266 F. and A. M., and was Past High Priest of Poughkeepsie Chapter of Royal Arch Masons and at the time of his death Assistant Grand Lecturer of that order. He was also a Forester and member of the Red Men. He is survived by a wife and two bright children. The funeral took place at the Presbyterian church and was under the auspices of Poughkeepsie Lodge 266 F. and A. M. Interment was at his old home at Wurtemberg near Rhinebeck.

J. WILSON POUCHER.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

Neurasthénie et Névroses. Leur guérison définitive en cure libre, par le Docteur PAUL-EMILE LEVY, Ancien Interne des Hôpitaux de Paris. 1 fort vol. in-16, 4 fr. (Félix Alcan, éditeur), 2^e édition.

This book deals with the treatment of functional diseases of the nervous system and is essentially a contribution to psychotherapy. The principles involved in the author's conception of psychotherapy, however, are radically opposed to the classic doctrine, of which Dubois may be regarded as the leading exponent. In fact, the greater part of Lévy's work is neither more nor less than a direct criticism of the cardinal principles underlying Dubois's method. To him, the inviolable triad—rest, isolation and overfeeding—appears absolutely inadmissible, since it implies the systematic application of a preconceived line of treatment to all forms of neuroses, regardless of the circumstances under which this neurosis may have developed or of the physical and psychic dispositions of the individual subject.

The enjoinder of rest in cases of neurasthenia, for instance, is based on the supposition that there invariably exists a certain degree of physical or organic debility. Doubtless, this material weakness does exist in many cases, but more often than otherwise, it is not so much a question of actual asthenia as of distaste for activity. The subject feels no inclination to occupy himself and this inertia is directly dependent upon his anxieties and preoccupations, upon his state of mental depression. What he needs is psychic rather than physical rest and the best way to ensure this is to encourage activity. The more the patient is allowed to remain physically inactive, the more time he has to think about himself and the more remote become the chances of his ultimate and complete recovery. On the contrary, properly graded exercise and occupation are bound to prove beneficial by improving circulation, by promoting excretion, and especially by ensuring a wholesome and useful employment

of time. It is in this way that the patient can best be guarded against himself.

Isolation, which is quite needless in neurasthenia, is also superfluous if not actually harmful in most cases of hysteria. It is true that a cure is often rapidly effected by this measure, the result is indeed brilliant, but, having been gained by artificial means, by a process of intimidation and forced submission, relapses are prone to follow and are far more frequent than is generally believed. The reason for this is very simple. Patients are momentarily removed from home and from all the harmful influences to which they must sooner or later return, and, after being closely sequestered for a variable length of time, gradually regain their liberty in a measure directly proportionate to their willingness to get well. In other words a factitious existence has been created in order to effect a cure. The principle of this treatment is in itself fallacious and it is not surprising that, upon returning to their former environment, such patients should gradually exhibit the same old train of symptoms.

The same may be said of over-feeding. Patients rapidly gain in weight while under treatment, but this artificial surplus vanishes with equal rapidity as soon as they resume their former existence. To use the words of Lévy they had simply been inflated. The question of body-weight, moreover, really has but little significance and cannot be regarded as an unfailing index of the actual strength and resistance of a subject. It can also be objected that the gastro-intestinal derangements so common in patients presenting various forms of neuroses are aggravated rather than ameliorated by this sudden and artificial rise in assimilation.

Lévy considers that neuroses are the result of inadequate or faulty education and he therefore insists that the logical keynote of successful therapy must reside in education or re-education. This education or re-education which constitutes the rational basis of psychotherapy should be general, that is to say, not merely psychic but physical as well. Nor should, as the doctrine of Dubois and his followers maintains, other therapeutic measures, physical or medicinal, be discarded; they are valuable adjutants to psycho-therapy and should be employed according to the indications which may arise in individual cases.

Physical rest is unquestionably imperative in many cases but it should not be uselessly prolonged. On the contrary, after a certain time, patients should be encouraged to occupy themselves either in the way of exercise or of actual occupation, the nature and degree of which should be subject to the physician's immediate control. Patients should be taught to see in this very activity the cardinal element upon which their recovery depends.

In all cases, it is the physician's duty, after thorough and careful analysis of the physical and psychic state, to frankly expose to the patient the nature of the findings and to teach him how to interpret the various manifestations of his disorder. It is only by logical reasoning and by a free expression of the undisguised truth, that the patient's confidence and co-operation will be secured, without which permanent results are impossible. Demonstration of the patient's errors in the interpretation of

his subjective phenomena, correction of his moral inclinations and physical habits, gradual development or reinstatement of will power, constant encouragement and reassurance—such are the principles which should guide the physician in the treatment of the various neuroses. In these relations between physician and patient there should be tenacity, firmness and conviction on the part of the former, voluntary submission and implicit obedience on the part of the latter.

This psychotherapy should be conducted without the aid of isolation, by leaving patients in the very environment in which they must continue to struggle. They must be taught how to overcome the difficulties which crowd in upon them and learn to minimize them in virtue of an acquired increase in moral resistance and energy. This mode of treatment may seem extremely difficult, but experience, says Lévy, has proved its efficacy and even its relative facility of execution. Once cured under these circumstances, the subject is immune against further manifestations because he has gained confidence in himself and no longer fears.

The author terminates by expressing the hope that active re-education in absolute liberty shall soon have superseded definitely the objectionable and delusive process of isolation and forced feeding.

LA SALLE ARCHAMBAULT.

The Practice of Medicine. A Guide to the Nature, Discrimination and Management of Disease. By A. O. J. KELLY, M. D., Assistant Professor of Medicine, University of Pennsylvania; Professor of Medicine, University of Vermont. Octavo, 949 pages, illustrated. Cloth, \$4.75 net. Lea & Febiger, Publishers, Philadelphia and New York, 1910.

The need of a new practice of medicine is not always self-evident. Such books are fairly numerous and the responsibility rests upon the author in furnishing the latest medical information in available form.

With the recent editions of Osler, Anders, Tyson and Hare the field would seem to have been covered, but Dr. Kelly's book amply justifies itself in spite of the exuberance of this department of medical literature. It is marked by concise and compact expression, and by an almost superhuman condensation of the latest accepted facts of medical practice. For this reason it challenges comparison with any of the text-books now in use, and the classification of diseases represents the latest thought. Dr. Kelly has summarized in short paragraphs the main features of the tropical diseases which are now impressing themselves upon American medicine. Although this work is more largely in the hands of travelers to the insular possessions, cases are not unlikely to occur in almost any place and at almost any time.

There is difficulty in selecting from such an extensive work the definite statements which attract attention, but among the more recent may be mentioned the work of Flexner on infantile paralysis and the summary by Goldthwaite of the conditions of chronic arthritis.

The effort to incorporate all of the chronic joints affections in one group promises to facilitate the study and treatment of these obstinate and perplexing cases, although the distinction between atrophic and hypertrophic processes is rather histological than clinical. A distinct service has been done by Goldthwaite, and the concise summary given by Kelly is very helpful. In the description of Gilles de la Tourette's disease all forms of impulsive or convulsive tics are included, and the necessity of explosive utterances or obscene language are not regarded as essential to the diagnosis. This is an advanced view, and attracts attention to this peculiar psychosis and gives it greater prominence than it has had, to which it is fully entitled, for mental tics are of quite common occurrence. These are a few of the important condensations which characterize this book. Curiously enough no mention is made of the use of nitroglycerine or nitrite of amyl in the treatment of acute pulmonary oedema. This remedy is practically a specific, and it appears that the practice of Albany shares with that of Boston its almost invariable employment as none of the modern text-books have mentioned it.

Dr. Kelly has given some attention to treatment, and he desires to render the book serviceable to students and younger practitioners. He has emphasized at least one method under each individual disease, so that a starting point may be had upon which to develop the results of experience.

Dr. Kelly has had a wide experience in pathological and clinical work, has been assiduous in the cultivation of the literary side of medicine, and has utilized this varied experience in a way deserving of the greatest approbation. His "Practice of Medicine" is one of the most valuable books of recent years.

A Treatise on Orthopedic Surgery. By ROYAL WHITMAN, M. D., Adjunct Professor of Orthopedic Surgery in the College of Physicians and Surgeons, New York; Professor of Orthopedic Surgery in the New York Polyclinic. New (4th) edition, revised and enlarged. Octavo, 908 pages, with 601 illustrations, mostly original. Cloth, \$5.50 net. Lea & Febiger, Publishers, Philadelphia and New York, 1910.

Ever since the publication of its first edition, Whitman's Orthopedic Surgery has ranked as a standard work.

Orthopedic Surgery covers a broad field and it would be impracticable in a single volume to describe and discuss all the recent contributions to the subject. However, Dr. Whitman in the preface to this fourth edition of his work expresses the belief that it fairly represents its department of medicine at the present day, a modest claim which is more than substantiated.

The present fourth edition has been thoroughly revised and improved by the addition of new material and new illustrations.

Notable subjects of discussion in this edition are descriptions of Calot's Jocket and New Modifications; the author's treatment of fracture at the hip; description of the author's operation for the relief of calcaneus; treatment of epiphyseal fracture at the shoulder, etc., etc.

The new illustrations are original and instructive. Among them are several interesting x-ray pictures. It is to be regretted that a more general use of x-ray pictures has not been made since their value in orthopedic work is daily being made more apparent.

J. MCW. B.

SURGERY

Edited by Albert Vander Veer, M. D., and Arthur W. Elting, M. D.

Dorsal Spinal Anesthesia for the Anesthetizing of all Regions of the Body. (Die Rachanästhesie zur Anästhesierung sämtlicher Körperregionen.)

TH. JONNESCO. *Deutsche medizinische Wochenschrift*, December 9, 1909.

In September, 1908, at the National Congress of Surgery in Brussels, Bier and Rehn both severely condemned spinal anesthesia produced above the lumbar region as practiced by Jonnesco.

Since October, 1908, the writer has done all of his operations in the university clinic, as well as in his private clinic, with this method of dorsal spinal anesthesia.

Dollinger, Von Eiselsberg, and Schauta have also made use of the method. The technic of the procedure includes the preparation of the solution of the anesthetic, the instruments, the puncture, the injection, and the position of the patient before and after the injection. The method of preparing the solution of the anesthetic consists in dissolving from .05 to .10 grams of neutral strychnine sulphate in 100 grams of sterilized water. In one cubic centimeter of this solution the dose of stovain is dissolved.

The instruments used consist of the usual lumbar puncture needle with a hypodermic syringe. He prefers a needle with a short point in order that all of the injected fluid may reach the arachnoid space. He, as a result of careful study, decided that the most favorable position for puncture is between the first and second dorsal vertebrae and between the last dorsal and the first lumbar vertebrae. The puncture between the first and second dorsal vertebrae is made with the patient in a sitting position with the head strongly flexed on the sternum. The needle is inserted parallel with the spine of the second and dorsal vertebrae. A puncture in this location suffices for anesthesia of the head, neck, thorax, and the upper extremities. Puncture between the twelfth and the first lumbar vertebrae is also made in a sitting position in the same manner.

Care should be taken if possible to secure a free flow of the spinal fluid. This is usually easier in the dorso lumbar punctures than in the upper dorsal punctures, where the fluid usually flows more slowly and only by drop. Oftentimes no fluid will flow. Having the patient cough or aspi-

rating by means of a syringe will frequently start the flow of spinal fluid. If no fluid then flows the needle should be withdrawn somewhat and again inserted and this continued until fluid appears. Occasionally it may be necessary to make the puncture with the patient lying on the right side. He states that only the smallest possible quantity of cerebro spinal fluid should be allowed to escape because of the unpleasant symptoms which frequently result from the lowering of the pressure of this fluid. The anesthetic fluid should be injected slowly.

The position of the patient after the anesthetic is injected is of considerable importance. After the upper dorsal puncture the patient should lie on the back with the head horizontal to obtain perfect anesthesia of the face and head. If anesthesia of the neck is desired, the patient should lie on the back with the head somewhat raised. If anesthesia of the thorax and upper extremities is desired, the patient is allowed to remain for two or three minutes in a sitting posture and then lies on the back. If anesthesia does not occur in from four to five minutes in any of these positions, the head and shoulders of the patient may be lowered somewhat. After dorsal lumbar puncture the patient remains for two or three minutes in a sitting posture, and if anesthesia does not occur in five or six minutes the Trendelenburg position is used, after which the dorsal posture.

The dose of strychnine usually varies from one-third to one-half of a milligram for the upper dorsal puncture and from one-half to one milligram for the dorso lumbar puncture. The dose of stovain varies according to the age of the patient, from ten to thirty milligrams in the upper dorsal region and from twenty to 100 in the dorso lumbar region, the average dose for adults being from forty to sixty milligrams.

Anesthesia develops from two to three minutes after the upper dorsal injection and somewhat slower after the dorso lumbar injection. If anesthesia does not occur in ten minutes it is usually due to the fact that the anesthetic has not freely reached the arachnoid space. In some instances two or three injections have been necessary before satisfactory anesthesia was obtained.

The writer advises keeping something before the patient's eyes so that the field of operation is not visible. Immobilization of the anesthetized parts usually accompanies anesthesia. This is especially true of the movements of the intestines, making abdominal and pelvic operations decidedly easier. The writer rarely sees any unpleasant symptoms, such as pallor, nausea, sweating, or vomiting, and in not more than $2\frac{1}{2}$ per cent. of the cases. The pulse is usually normal. Sudden stopping of the respiration, which has been reported, he has only seen in one instance of the upper dorsal injection, and that was where forty milligrams of stovain was used, which he regarded was too large a dose.

His conclusions are:

Anesthesia usually lasts from one hour and a half to two hours. If this should not be long enough for the completion of the operation, a second injection can be made without any danger. Headache is rare. Urinary retention rare, temperature is usually not elevated, nausea after the operation is very rare, and paralysis has never been observed.

3. Medio-cervical puncture is unnecessary and dangerous.
1. That his method of anesthesia has two underlying principles:
 - (a) The puncture of the arachnoid space at certain points of election; and
 - (b) The use of stovain with a small amount of strychnine.
2. Puncture of the arachnoid space is without danger and any slight injury to the spinal chord is without result.
3. Medio-cervical puncture is unnecessary and dangerous.
- Mid-dorsal puncture is also difficult and unnecessary.
- The upper dorsal and the dorso lumbar punctures are sufficient to anesthetize all parts of the body.
4. The strychnine used does not offset the anesthetizing, but only the paralyzing effect of the stovain upon the medulla.
- He believes that the freedom from danger of his method is mainly due to the strychnine.
5. Stovain he has found to be the most satisfactory of the anesthetics, always used in combination with a watery solution of strychnine. He does not sterilize the stovain because it interferes with its action, and he has found that the powder as obtained is sterile.
6. He injects one cubic centimeter of the watery strychnine solution, using a hypodermic syringe and lumbar puncture needle.
7. This method of anesthesia has no contraindication, and anesthesia always occurs if the solution penetrates the arachnoid space and the dose of stovain and strychnine is sufficient.
8. His method has not had any mortality and has not been followed by any after-effects.
9. Chloroform anesthesia has been rendered unnecessary by the use of stovain.
10. The results of the writer's study and investigation have shown how premature and ungrounded the statements made by Bier and Rehn were.

The Treatment of Flat Skin Carcinoma. (Zur Behandlung der flachen Hautkarzinome.)

E. REHN. *Münchener medizinische Wochenschrift*, No. 4, January 26, 1909.

Two varieties of carcinomata of the face are distinguished.

The first is the prickle cell carcinoma, with a decided tendency to keratinization. This group is sometimes spoken of as keratinizing carcinoma.

The second variety is that of the basal cell carcinoma.

In these carcinomata the cells maintain their character and do not undergo any further differentiation. Clinically the important fact in regard to these tumors is that the so-called basal cell carcinoma is relatively much more benign than the keratinized carcinoma. They remain superficial very much longer and less frequently metastasize to the lymph glands. To this group belong the so-called rodent ulcers and those superficial forms of skin cancer which seem to show a tendency to spontaneous healing.

The writer reports a case of apparently spontaneous healing which subsequently showed considerable activity and which he removed at operation. Careful microscopical examination of the apparently healed part showed a few distinct nests of cancer cells scattered through the scar tissue. He states that he has had a considerable number of similar experiences, some of which have been cases which were apparently cured by the use of the X-ray. He emphasizes particularly the danger of the cell extension into the deep tissues, while on the surface an apparent healing has taken place. The tendency after treatment with the X-ray would be to extend to the deeper parts rather than superficially, because of the more or less marked zone of inflammatory tissue produced around the cancer by the X-ray treatment.

The writer does not agree with Clairmont, who warmly advocates the treatment of carcinoma of the face with the X-ray.

Clairmont regards the basal cell carcinomata as especially amenable to this sort of treatment because of their benign character.

In the last half year the writer states that he has seen eight cases of basal cell carcinoma, four of which were relatively benign and four decidedly malignant. Transitions from the one form to the other of the skin carcinomata frequently occur and cause both clinical and pathological confusion.

The apparently favorable results of the treatment of basal cell carcinoma with the X-ray is but the confirmation of the well-known fact that these tumors are easily influenced and have a decided tendency to apparent superficial healing. This has been frequently accomplished by actual cautery, caustic fluids, and ointments.

According to Lexer, the X-ray is to be used in those operable tumors which can be definitely shown to be basal cell carcinomata and in which there is no evident metastasis to the lymph glands.

The writer goes one step further and believes that the X-ray is an unsafe and uncertain method of treatment even in these cases:

In the first place, because of the fact that many of them apparently remain well for some time, is not proof that they have been cured; and

Secondly, because patients are exposed to the effects of the X-ray, which he regards as decidedly more dangerous than a knife in the hands of a skilful surgeon.

*Consideration of the Clinical History of Arthritis Deformans Coxae,
Based upon Certain Observations.*

KOENIG. *Archiv für klinische Chirurgie*, Band 88, Heft 2.

By arthritis deformans we understand a disease characterized by certain destruction of the joint surface and new formation of bone at the edges of the joint.

While this picture of the disease is understood by every one, the etiological and clinical history in the beginning of the disease is but little understood. We are familiar really only with the end stages to which *malum coxae senile* belongs.

In some instances it would appear that the disease might be the result of trauma or some severe inflammatory process in the joint. Old age alone is not a cause of the disease.

Malum coxae senile is often known to begin in early life. Sometimes the disease is monarticular in the hip; often, however, other joints are coincidentally involved.

The writer reports several cases in comparatively young men in which a certain symptom-complex was observed in each instance. The chief symptom was pain when riding horseback, with the horse on a walk, while trotting or galloping did not cause pain. No other motion or use of the hip caused pain. Physical examination showed a freedom of movement in all directions at the hip, no local pain, and a good muscular development. The radiograph showed mild arthritis deformans of both the head and acetabulum.

The writer has been able to follow these cases and in one instance twelve years have elapsed without any further marked progression of the symptoms. He believes that these cases are frequently regarded as neuralgic in character. The explanation of the cause of the pain when riding a horse at a walk and not when riding at a trot or gallop is that when the horse walks the legs usually hang loosely without muscular action, while when riding at a trot or gallop the joint is held firmly by the muscles and thus the pain does not occur. In some instances a certain grade of separation of the legs seems to be necessary to cause pain, for in one of the writer's cases it did not occur when he rode a thin, narrow horse, but it did when he rode a fat, thick one.

The writer concludes first, that arthritis deformans coxae sometimes begins in very early life; second, that the disease may remain for a long time symptomless or with very slight symptoms, even when the case showed decided evidence of disease.

The writer believes that in all of his cases the riding had nothing to do with causing the disease, but simply brought out the symptoms.

Thirdly, he believes that one of his cases shows how slow the progress of the disease may be, the patient having had it for twelve years, with a very little, if any, progression of symptoms.

These and similar experiences lead the writer to believe that in many instances the course of the disease is very slow and relatively mild, and that many cases of rheumatism and sciatica, on careful investigation, will be found to be mild cases of arthritis deformans.

As a rule for the productions of the condition which we ordinarily regard as malum coxae senile, many years are probably required.

A radiograph of the early cases shows a flattening of the outer side of the hip, together with some slight disappearance of the cartilage. In some instances the condition appears to follow injury to the joint, and this injury must usually be severe enough to cause some actual lesion of the bone or cartilage.

The writer believes that spontaneous arthritis deformans coxae results from some disturbance in the mechanism of the joint. This disturbed mechanism may be the result of a softening of the cartilage or of the bone occurring from different causes.

Gall-stones in the Urinary Bladder. (Gallensteine in der Harnblase.)

F. MICHEL. *Zentralblatt für Gynäkologie*, January 2, 1909.

Foreign bodies in the urinary bladder are not of infrequent occurrence and are usually introduced from without. If they arise from within the peritoneal cavity, the usual source is from material left in the peritoneal cavity at the time of operations and these later work their way into the bladder.

The author's patient was a woman twenty-nine years of age who, three years before, had an attack of gall-stone colic. Peritonitis resulted which was treated by ice bags and there developed, what appeared to be, a large exudate about the cecum. This mass gradually disappeared in the course of three months.

The patient later complained of pain in the bladder and was treated for cystitis and bladder irrigations were used. The symptoms persisted and during the last six months became very severe. Another physician saw the patient, made a diagnosis of vesical calculus and attempted to remove the stones with forceps introduced through the urethra. He was unable to remove them on account of their size and was also unable to crush them.

The patient was referred to the writer who opened the bladder through the vagina and, with difficulty, removed four large calculi which were imbedded in a pouch of the bladder wall. The two largest weighed 11.4 and 10.1 grams. The stones consisted of cholesterin and a positive reaction to bile was obtained.

The writer believes that these must have been a very large hydrops of the gall-bladder which became adherent to the urinary bladder and ruptured through it.

PEDIATRICS

Edited by Henry L. K. Shaw, M. D.

The Influence of Hunger in Disorders of Nutrition. (Die Wirkung des Hungers in den verschiedenen Stadien der Ernährungsstörung.)

MEYER and ROSENSTERN. *Jahrbuch für Kinderheilkunde*, February, 1909.

The term "hunger" is applied to a twenty-four-hour diet of water followed by a gradual increase of milk until the regular diet is reached after eight to ten days. This starving treatment has a different effect on infants suffering from various forms of nutritional disorders.

In the present article the authors confine their investigations to three symptoms, the frequency of the pulse, the temperature and the weight.

A brief review of work done on the effects of starvation in adults shows that the pulse becomes slower, the temperature lower and the weight decreases in experimental hunger. This is shown to occur almost invariably in both man and beast.

The authors, in order to determine the effect of starvation in infants, studied healthy and dyspeptic infants, and babies with acute intestinal

intoxication and the condition of athrepsia which is called decomposition by Finkelstein.

Under dyspepsia were included those cases with irregular temperature, stationary or loss in weight, diminished appetite and dyspeptic undigested stools. The cases of intoxication included the very acute conditions. Collapse, rapid loss in weight, stupor, increased respiration, albuminuria, etc. The clinical picture of decomposition presents an old man's sunken face, intense anaemia, large, red mouth in which the fingers of both hands are always to be found, slowness of the pulse and subnormal temperature. These babies are always hungry and, in spite of large amounts of food, constantly lose weight.

It is difficult to ascertain the pulse-rate of a healthy infant when it is awake, and it should be taken when the baby is asleep. It has been found that the pulse-rate of a healthy infant is from 100 to 130 a minute. There is a physiologic daily variation in the temperature and it normally ranges between 36.8° and 37.2° .

The first series of tests were on healthy infants, and they showed that neither the pulse rate nor temperature was influenced by the starvation diet. The weight curve would fall rapidly for three to four days and then remain horizontal. The same results were obtained with the dyspeptic and toxic infants where the diet had a pronounced favorable therapeutic effect. In the infants classified under the term decomposition a most striking result was constantly observed. The pulse would become slower, the temperature fall away below normal and the weight decrease very rapidly. In many instances death would result. An interesting observation was in twins with inanition or decomposition. One was given the starvation diet and died and the other was put on breast milk and recovered.

The practical results of these observations lies in the fact that a diagnosis of the digestive disorder should be made before ordering a withdrawal of food for therapeutic purposes.

Anorexia Nervosa. (Anorexie Nerveuse.)

COMBY. *Archives de Médecin des Enfants*, December, 1909.

The author has previously written on this subject and reported several cases. In the present article he reports the case of an eleven-year-old girl who absolutely refused to eat. On admission to the hospital she weighed sixteen kilograms. She was exceedingly nervous and showed several stigmata of hysteria. There were several zones of anaesthesia over the lower extremities and the pharyngeal reflex was absent. There was obstinate constipation. This patient made a complete recovery and in six weeks gained ten kilograms. The treatment consisted solely in rest in bed and persuasion. No drugs of any kind were administered. The child was kept in the large general ward without isolation.

The influence of the visits of the child's family was bad. After such visits she would have attacks of vomiting and refuse all food. Finally the parents were forbidden to see the child.

Mental or nervous anorexia is found in children of both sexes and of

all ages. The author reviews some of the recent French literature on this subject, but makes no reference to several contributions on this condition which have appeared in the American journals.

The passage of oesophageal sounds is advocated in severe cases. Gavage is also of value and in some cases it alone sustains life. The treatment of the nervous system is of the utmost importance. Removal from the home and all family influences must be insisted upon. The author lays stress on the effect of absolute repose in bed with or without hydrotherapy and of tactful persuasion to partake of food.

MATERIA MEDICA AND THERAPEUTICS

Edited by Spencer L. Dawes, M. D.

The Effects of Caffeine and Sodium Bicarbonate upon the Toxicity of Acetanilide.

WORTH HALE. *The Journal of Pharmacology and Experimental Therapeutics*, October, 1909, p. 185.

Most of the headache mixtures sold over the druggists' counter and at the soda fountains, as well as those dealt out by physicians, contain, in addition to acetanilide, other drugs, generally caffeine or sodium bicarbonate or both, the general impression being that these drugs in some way lessen the toxicity of the coal-tar product.

The official recognition of caffeine and sodium bicarbonate as ingredients of acetanilide mixtures, together with the large number of cases of poisoning arising, especially from the use of the so-called headache remedies, suggested the experimental determination of the effect of these and other drugs commonly found in such mixtures upon the action of acetanilide.

Experiments were made upon the frog's heart by the perfusion method with acetanilide alone and then in combination with caffeine citrate. Where acetanilide was used alone the heart ceased to beat on an average of 23.1 minutes after perfusion was commenced, while with caffeine the stoppage occurred on an average of 12.7 minutes after the drug was started. When sodium bicarbonate was used instead of caffeine some evidence of antagonism appeared, but not sufficient to interfere with the toxic action of the acetanilide.

To check the results obtained by the perfusion method a series of experiments were carried out on dogs. After anaesthesia was complete, the heart was exposed and the right ventricle attached to a modified form of the Roy-Adami myocardiograph and blood-pressure tracings were taken with a mercury manometer and injections were made into the saphenous vein. It was found that the caffeine had no antidotal effect upon the contractile power of the heart in acetanilide poisoning, on the contrary often increasing the weakness. It was, however, decidedly antidotal as to the diminished rate, often restoring it to normal, and it has no appreciable effect upon the blood-pressure curve of acetanilide poisoning. Sodium bicarbonate was also used, no beneficial effects being noted.

Several series of experiments were tried upon guinea-pigs by the stomach and white mice hypodermatically, the results indicating that an acetanilide-caffeine mixture is about twice as toxic as acetanilide alone, and that caffeine by itself, in four times the dose given with acetanilide, is scarcely toxic at all, while it was found that the sodium bicarbonate was a decided antagonist to and decreased the toxicity of the acetanilide.

The Rôle Played by Diet in Bright's Disease.

W. B. WARRINGTON. *The Practitioner*, August, 1909, p. 155

The diets to be considered in the treatment of renal disease are: 1. The amount of fluid. 2. The pure-milk diet. 3. The lacto-vegetarian diet. 4. The chloride poor diet. 5. The nitrogen poor diet. 6. Special articles of diet.

In acute nephritis and in acute exacerbations of chronic parenchymatous nephritis the lack of urinary water is due to impermeability of the diseased organ. In these cases we should reduce the intake to a minimum and remove the dropsy by mechanical means and vapor baths. Where there is cardiac insufficiency and no evidence of uremia, a diminution of the fluid intake to about one and a quarter liters a day is usually quickly followed by improvement.

In acute nephritis milk should be the chief article of food, but as the necessary amount of milk (three and a half liters) to produce the required calories contains too much albumin, a combination of milk, 1,500 c. c., and 450 c. c. of sterilized cream is preferable. Another drawback is that it is too rich in phosphorus and too poor in iron, and that constipation, dyspepsia, and anemia follow its prolonged use. Hence, it is wise to add such substances as rice, arrowroot, and sago; these are foodstuffs which are poor in sodium chloride and proteids and rich in carbohydrates.

An enormous literature has sprung up around the question of the rôle played by sodium chloride in the problem of dropsy, uremia, and arterial hyper-tension. Critical analysis shows that many of the statements made cannot be supported. Stauss finds use for the chloride poor diet in chronic parenchymatous nephritis with edema, and in dropsy or tendency to dropsy. On no account should the water intake be diminished unless at the same time a salt poor diet is selected. The nitrogen poor diet is indicated when we wish to spare the work of the diseased organ, and this protective principle can be carried further in the acute than in the chronic disease. In severe cases with anuria and oliguria, in which the edema is increasing and there is danger of uremia, we can limit the diet to the smallest possible quantity, about half a liter of milk per day, avoiding other fluids as much as possible and removing the water from the tissues by diaphoresis. At the end of four or five days there is increased functional activity of the kidneys or the patient has succumbed to the uremia.

In the convalescent stage of acute nephritis the diet may be extended by the addition of bread, peas, beans, and potatoes, an egg, or a small quantity of meat.

In chronic nephritis meat may be given, and the old idea that eggs or

red meats are injurious has not been substantiated. The urinary output should not fall below twelve grams of urea, which allows for ninety grams of protein, allowing for nitrogenous loss through the feces. Alcohol in general is to be forbidden, and tea, coffee, and tobacco, being irritants, must only be permitted with great caution. Spices and condiments are harmful, but salt and a small amount of vinegar may be taken.

A Clinical Study of Crystalline Strophanthin.

HAROLD C. BAILEY. *The Journal of Pharmacology and Experimental Therapeutics*, October, 1909, p. 348.

Until recently strophanthin has been employed clinically by the mouth, but when used intravenously it is noted that the results accord more closely with its pharmacologic action and experiments now being conducted seem to show that the absorption by the gastro-intestinal tract is very uncertain.

Crystalline strophanthin, which Thoms obtained from *Strophanthus gratus*, and which is said to be identical with ouabain, acts qualitatively like the amorphous strophanthin, over which it has the advantage of being a definite substance, with well-defined solubilities and melting point, and of being more than twice as active.

An extensive study of its toxic action on animals was first made and it was then tested clinically on a series of cases in Bellevue Hospital. In all cases there was loss of compensation and were cases in which digitalis would have been ordinarily administered. In the first series of twenty cases running for five months, daily doses of three-tenths to five-tenths of a milligram were given by deep muscular injection, usually into the buttock. The results were not at all striking, the author ascribing much of the improvement to the rest in bed. In the second series, twenty-seven cases were treated for six months and the dosage was increased, varying with the case. There were four cases of mitral, eight of mitral and tricuspid disease, four of aortic regurgitation, and five of mixed types. The medication was controlled with sphygmocardiographic and blood pressure readings. Clinical histories are then given of many of the cases. In most cases the blood pressure was increased a few millimeters of mercury. In marked dilatation the size of the heart was diminished in twenty-four to thirty-six hours and dilatation murmurs often disappeared. The rate and rhythm were markedly affected, the former being slowed and the latter made more regular. There were no toxic results excepting occasional nausea and vomiting and the largest dose noted was one and one-half milligrams.

The author concludes in advising that the daily dose should not exceed one-half a milligram and that this dose should be repeated only in exceptional instances under twenty-four hours. The strophanthin should be given intramuscularly or intravenously and should be dissolved in normal saline solution, 1-4,000 for the former and 1-6,000 to 8,000 for the latter. That crystalline strophanthine is a valuable cardiac stimulant when compensation is broken, but that it should be used in this way only in emergencies, being unsuited to continuous use.

INDEX TO VOLUME XXXI

	PAGE
Abdominal operations, The lungs and heart after.....	570
Acetanelide, The Effects of caffeine and sodium bicarbonate on the toxicity of	678
Acne vulgaris, The vaccine treatment of.....	396
Address. By Spencer L. Dawes, M. D.....	477
Albany Department of Health, vital statistics.....	32, 103, 107, 163, 220, 272, 327, 380, 430, 492, 549, 615, 656
Guild for the Care of the Sick, The.....	36, 107, 166, 223, 276, 331, 333, 428, 477, 505, 506, 552, 618, 659
Hospital, The.....	37, 103, 169, 225, 690
Eighth report of pavilion F. By J. Montgomery Mosher, M. D.	590
Medical College: See also Association of the Alumni, etc.....	553
at St. Louis, Alumni meeting of the.....	506
New England, Alumni Association of the.....	553
<i>The Skull</i>	224, 277, 333
Alcohol problem, The.....	101
Alcoholic psychoses. By Robert E. Doran, M. D.....	467
American Academy of Ophthalmology and Otolaryngology.....	621
Association of Clinical Research.....	554
Electro-Therapeutic Association	554
<i>Journal of Physiological Therapeutics, The</i>	224
Medico-Psychological Association, The.....	226
Physicians and Surgeons, The Congress of.....	226
Physicians, The Association of.....	167
Public Health, Association, The.....	556, 662
Society of Medical Sociology, The.....	662
Anæsthesia, Blood pressure in.....	270
in Normal Labor. By Paul T. Harper, M. D.....	647
Local. By Alvah H. Traver, M. D.....	305
<i>Annals of Surgery</i>	36
Anorexia nervosa	677
Antiformin, The use of.....	634
Antistreptococcic serum in scarlet fever and diphtheria.....	401
Archambault, J. L., M. D. Heredo-Tuberculosis.....	1
Treatment of puerperal eclampsia.....	68
Army Medical Corps Examination.....	280, 663
Arthritis deformans	291
coxae	674

ASSOCIATION OF THE ALUMNI OF THE ALBANY MEDICAL COLLEGE,	
THIRTY-SEVENTH ANNUAL MEETING.....	349
Address of welcome. By Arthur G. Root, M. D.....	550
Address, The President's. By Sheldon Voorhees, M. D.....	553
alumni dinner, The.....	378
commencement exercises, The.....	374
executive committee and recording secretary, Report of the....	552
historian, Report of the. By Arthur J. Bedell, M. D.....	358
History of the class of 1840. By Arthur J. Bedell, M. D.....	359
of the class of 1850. By Arthur J. Bedell, M. D.....	360
of the class of 1860. By Arthur J. Bedell, M. D.....	360
of the class of 1870. By Daniel C. Case, M. D.....	361
of the class of 1880. By Clinton Bradford Herrick, M. D..	365
of the class of 1890. By Edward V. Colbert, M. D.....	367
of the class of 1900. By Reid Gilmore, M. D.....	370
Necrology.	359
nominating committee, Report of the.....	373
treasurer, The report of the. By Robert Babcock, M. D.....	352
Atoxyl, On the action of, on the eye.....	337
Babcock, Robert, M. D. Treasurer's report, Alumni Association....	352
Bedell, Arthur J., M. D. Report of the historian. Alumni Association	358
Bernstein, Harry S., M. D. The serum diagnosis of syphilis.....	529
Berry, John M., M. D. Miss Bertha Van Denbergh. Anterior polio- myelitis and its treatment by muscle training.....	207
Epiphyseal fracture of the upper end of the humerus.....	135
Birth registration propaganda	663
Blatner, Le Roy, D. D. S. Fracture of the lower jaw.....	406
Blood pressure in anæsthesia, The.....	270
BOOK REVIEWS:	
A Handbook of Medical Diagnosis. By J. C. Wilson, A. M., M. D.	182
A Manual of Chemistry. By W. Simon, Ph. G., M. D.....	288
A Manual of Operative Surgery. By Sir Frederick Treves, F. R. C. S., etc.....	565
A Manual of Otology. By Gorham Bacon, A. M., M. D.....	113
Anatomy, Descriptive and Applied. By Henry Gray, F. R. S....	626
Appendicitis and Other Diseases of the Vermiform Appendix. By Howard Kelly, M. D.....	178
A Practical Treatise on Diseases of the Skin. By J. Nevins Hyde, A. M., M. D.....	183
A Practical Treatise on Ophthalmology. By L. Webster Fox, LL. D., M. D.....	290
A Text-Book of Diseases of Women. By Chas. B. Penrose, M. D., Ph. D.....	229
A Text-Book of Medical and Pharmaceutical Chemistry. By Elias H. Bartley, B. S., M. D., Ph. G.....	287
A Text-Book of Practical Therapeutics. By Hobart Amory Hare, M. D.....	46
A Text-Book of Protozoology. By Garry N. Calkins, Ph. D...	286

BOOK REVIEWS—*Continued*

A Text-Book of Surgical Diagnosis. By Edward Martin, M. D.	179
A Text-Book of the Principles and Practice of Surgery. By George Emerson Brewer, M. D.	180
A Treatise on Orthopedic Surgery. By Royal Whitman, M. D.	670
A Treatise on the Diseases of the Eye. By John E. Weeks, M. D.	628
A Treatise on the Diseases of the Nose, Throat and Ear. By William Lincoln Ballenger, M. D.	627
A Treatise on the Principles and Practice of Medicine. By Arthur R. Edwards, M. D.	47
Bacterial Food Poisoning. By Prof. Dr. A. Dieudonne.	230
Bier's Hyperemic Treatment, etc. By Willy Myer, M. D.	181
Biographic Clinics, Vol. VI. By George M. Gould, M. D.	112
Chemical and Microscopical Diagnosis. By Francis Carter Wood, M. D.	289
Clinical Treatises on the Symptomatology and Diagnosis of Disorders of Respiration and Circulation. By Prof. Edmond von Neusser, M. D.	51
Diseases of Children. Edited by Abraham Jacobi, M. D., LL. D.	563
Diseases of the Genito-Urinary Organs. By Edward L. Keyes, Jr., M. D., Ph. D.	394
Exercise in Education and Medicine. By R. Tait McKenzie, A. B., M. D.	566
Formulaire de Pouche pour les Maladies des Enfants, par le Dr. Jules Comby. Troisième édition.	565
Hand-Book of Obstetrics. B. R. Cadwallader, A. M., M. D.	178
Hand-Book of Therapy. American Medical Association.	289
Human Physiology. By John W. Ritchie.	53
International Clinics. Ed. by W. T. Longcope, M. D.	49, 50, 112, 566
Medical Gynecology. By Samuel Wyllis Bandler, M. D.	393
Medical Sociology. By James Peter Warbasse, M. D.	231
Minor and Operative Surgery, Including Bandaging. By H. R. Wharton, M. D.	52
Modern Surgery: General and Operative. By J. Chalmers DaCosta, M. D.	394
Neurasthénie et Névroses. Par le Dr. Paul-Emile Lévy.	667
New and Non-Official Remedies, 1910. American Medical Association.	290
New World Science Series—Primer of Sanitation. By J. W. Ritchie.	567
Nutrition and Dietetics. By Winfield S. Hall, Ph. D., M. D.	628
Obstetrics. A Manual for Students and Practitioners. By David James Evans, M. D.	176
Organic and Functional Nervous Diseases. By M. Allen Starr, M. D.	45
Parenthood and Race Culture. By Caleb Williams Saleeby, M. D.	52
Practical Dietetics, with Special Reference to Diet in Disease. By W. Gilman Thompson, M. D.	47

BOOK REVIEWS—*Continued*

Preparatory and After Treatment in Operative Cases. By H. A. Haubold, M. D.....	395
Principles and Practice of Physical Diagnosis. By John C. Da-Costa, Jr., M. D.....	111
Roentgen Rays and Electrotherapeutics. By M. K. Kassabian, M. D.	567
Text-Book of Hygiene. By G. H. Rohe, M. D., and Albert Robin, M. D.....	51
The Conquest of Disease Through Animal Experimentation. By James Peter Warbasse, M. D.....	395
The Diagnostics of Internal Medicine. By Glentworth R. Butler, M. D.	562
The Medical Complications, Accidents and Sequels of Typhoid Fever and the Other Exanthemata. By H. A. Hare, M. D., B. Sc.	232
The Practice of Medicine. By A. O. J. Kelly, M. D.....	669
The Prevention and Treatment of Abortion. By F. A. Taussig, A. B., M. D.....	173
The Principles of Bacteriology. By A. C. Abbott, M. D.....	229
The Principles of Pathology. By J. George Adami, A. M., M. D., LL. D., F. R. S.....	561
The Principles of Pharmacy. By Henry V. Arny, Ph. D., Ph. G.	53
The Propaganda for Reform in Proprietary Medicines. American Medical Association.....	53
Thornton's Pocket Medical Formulary. Lee & Febiger.....	52
Treatment of the Diseases of Children. By Charles G. Kerley, M. D.	564
Tumors of the Kidney. By Edgar Garceau, M. D.....	48
Bright's disease, The rôle played by diet in.....	679
Brownell, Arthur H., M. D. Acute suppurative otitis media.....	196
Carcinoma, A comparative study of hemolysis in vitro and in vivo as a means of diagnosis of. By Arthur Krida.....	259
On heterotrophic and epithelial growth and.....	631
On the statistics of, etc.....	632
The treatment of flat skin.....	673
Case, Daniel C., M. D. Report of the class of 1870, Alumni Association	361
Certified Nurses, National Training School for.....	108
Charities and Corrections, New York State Conference of.....	554
Charlotte Sanitarium	557
Chase, Walter B., M. D. The rational treatment of so-called inoperative uterine tumor.....	246
Chiari, Hans. Über die Eingangspforten der menschlichen Tuberculose	635
Chisholm, A. Stuart, M. D. On specialization in medicine.....	125
Chorea, Mental disturbances in.....	121
The reflexes in Sydenham's.....	120
Civil Service: See United States Civil Service.	

Colbert, Edward V., M. D. Report of the class of 1890.....	367
Conheim, Prof. Dr. Otto. The experimental pathology of the stomach.....	512
Conjunctiva, Congenital cysts of the.....	339
Contagious and infectious, Definitions of. By George E. Gorham, M. D.	255
County medical society, The functions of a. By Andrew Mac Far- lane, M. D.....	403
Cremasteric reflex, The.....	123
Crothers, T. D., M. D. Biographical sketch of R. E. Ensign, M. D.	37
The physics of light and electric therapy.....	573
Cumston, Charles Greene, M. D. The pathology of tuberculosis of the breast	295
Curtis, F. C., M. D. Biographical sketch of Oliver C. Alexander, M. D.	228
Cyclical vomiting in children.....	122
Dawes, Spencer L., M. D. Address.....	477
United States Pharmacopoeia: A study in genealogy.....	30
DEATHS:	
Ackert, Dr. William S.....	666
Alexander, Dr. O. C.....	170
Beauchamp, Dr. Richard N.....	665
Boyce, Dr. Elias Bedell.....	623
Cipperly, Dr. John.....	170
Drake, Dr. Daison.....	510
Eccleston, Dr. Alvin H.....	170
Garretson, Dr. Carhart Lyon.....	510
Geoghan, Dr. William.....	37
Healy, Dr. William G.....	335
Hendrickson, Dr. William M.....	510
Hewitt, Dr. Charles Nathaniel.....	510
Hillegas, Dr. Willard E.....	623
Hoadley, Dr. Alfred H.....	108
Johnson, Dr. F. M.....	37
Johnson, Dr. Leonard M.....	665
Johnson, Dr. William Lobdell.....	510
Mallory, Dr. Charles B.....	335
McCulloch, Dr. William C.....	108
McMurdy, Dr. Robert S.....	510
Nichols, Dr. William H.....	666
Platner, Dr. Rensselaer.....	108
Post, Dr. George S.....	666
Riker, Dr. Aaron W.....	37
Shanks, Dr. Seth G.....	666
Sloan, Dr. Hugh.....	623
Stevens, Dr. Edmund.....	510
Stowitts, Dr. Arthur Delevan.....	335
Van de Warker, Dr. Ely.....	559
Williams, Dr. Randall.....	510, 559
Dementia praecox, The prognosis of.....	55

Diabetes in children, Family.....	629
Diagnosis, Differential, A contribution to.....	116
The, between cancer and ulcer of the stomach and gall bladder disease. By Donald Guthrie, M. D.....	187
Limitations of laboratory. By Thomas Ordway, M. D.....	522
Diagnostic house, The. By Andrew Mac Farlane, M. D.....	584
Doran, Robert E., M. D. The alcoholic psychoses.....	467
Drunkenness requiring medical treatment.....	224
Eclampsia, Treatment of puerperal. By J. L. Archambault, M. D..	68
Eczema, Salt metabolism in infantile.....	123
Electrical treatments. By H. M. Imboden, M. D.....	144
Electricity, High frequency, in the treatment of adenitis, prostatitis and in local infections. By William G. Lewi, M. D.....	200
Ellithorp, Robert Lincoln. Biographical sketch of Wm. C. McCulloch, M. D.	109
Epilepsy, The National Association for the Study of.....	333
The relations of genuine with symptomatic.....	118
Epileptic attacks, Examination of the eyes in.....	335
Unusual vision in an. By Christian G. Hacker, M. D.....	485
Esophageal hemorrhage, Fatal, eight days after swallowing foreign body. By Percy G. Waller, M. D.....	24
Stricture in a two-year-old child, Case of a traumatic. By George W. Ross, M. D.....	27
Eyes of Sailors, The protection of.....	621
Faraday: his life and work. By Willis G. Tucker, M. D.....	341, 412
Farm colony, A bill to establish a.....	226
Female reproductive organs, The relations of the, to internal disease..	447
Foreign Missions, Student Volunteer Movement for.....	661
Garvin, Alfred H., M. D. Some points on the early diagnosis of pulmonary tuberculosis	449
Gilmore, Reid, M. D. Report of the class of 1900. Alumni Association	370
Gorham, George E., M. D. Definitions of contagious and infectious..	255
Goler, George W., M. D. Preliminary report on the tuberculin test as applied to a city's milk supply.....	63
Gray's Anatomy, A new edition of.....	554
Guthrie, Donald, M. D. The differential diagnosis between cancer and ulcer of the stomach and gallbladder disease.....	187
Hacker, Christian G., M. D. Unusual vision in an epileptic.....	485
Haemophilia, Report of a case. By G. S. Towne, M. D.....	321
The serum treatment of.....	378
Harper, Paul T., M. D. Anaesthesia in Normal Labor.....	647
Health Department of Albany: See Albany Department of Health.	
New York State Department of: See State Department of Health.	
Officers, Annual conference of.....	619
Hemorrhage, Ante-partum and post-partum. By H. Judson Lipes, M. D.	88
Herrick, Clinton Bradford, M. D. Report of the class of 1880. Alumni Association	365

Holding, Arthur F., M. D. The treatment of tuberculous adenitis with the x-rays.....	140
Humerus, Epiphyseal fracture of the upper end of. By J. M. Berry, M. D.	135
Hunger, The influence of, in disorders of nutrition.....	676
Icterus, The surgical treatment of chronic.....	568
Imboden, H. M., M. D. Electrical treatments.....	144
Infantile paralysis: See also Poliomyelitis.....	489
Infections, A critical analysis of a series of 180 cases of acute intraperitoneal. By E. MacD. Stanton, M. D.....	233
IN MEMORIAM:	
Ackert, William S., M. D. By J. Wilson Poucher, M. D.....	666
Alexander, Oliver Colvin, M. D. By F. C. Curtis, M. D.....	228
Barker, George Frederick, M. D.....	392
Boyce, Elias Bedell, M. D.....	624
Bradbury, George A., M. D.....	282
Eccleston, Alvin H., M. D.....	170
Ensign, Robert Eleazer. By T. D. Crothers, M. D.....	37
Geoghan, William, M. D. By Maurice J. Lewi, M. D.....	42
Hendrickson, William M., M. D.....	623
Hoadley, Alfred H., M. D.....	173
McCulloch, William C., M. D. By Robert Lincoln Ellithorpe, M. D.	109
Nichols, William H., M. D.....	666
Platner, Rensselaer, M. D. By W. B. Platner, M. D.....	109
Van de Warker, Ely, M. D. By A. M. Wose, M. D.....	560
Williams, Randall, M. D.....	559
Insane, Committee on the.....	224
Insanity, Maniacal-depressive	59
Puerperal. By J. Montgomery Mosher, M. D.....	84
To curb	662
Internal carotid, A case of rupture of treated with gelatinized serum.	336
International Congress of Medicine and Hygiene, The.....	37
Ionization treatment of eye diseases.....	338
Jaw, Fracture of the lower. By Le Roy Blatner, D. D. S.....	406
Katatonina in childhood.....	57
Krida, Arthur. A comparative study of hemolysis in vitro and in vivo as a means of diagnosis of carcinoma.....	259
Laird, Arthur, M. D. New methods for concentrating tubercle bacilli in sputum	538, 605
The clinical significance of subfebrile temperature in pulmonary tuberculosis.	311
The Henry Phipps Institute.....	159
Legislation, The perils of ill considered.....	217
Leprosy, An immunizing serum for.....	654
Lewi, Maurice J., M. D. Biographical sketch of William Geoghan, M. D.	42
Lewi, William G., M. D. High frequency electricity in the treatment of adenitis, prostatitis and in local infections.....	200

- Light and electric therapy, The physics of. By T. D. Crothers, M. D. 573
- Lithopedion thirty-five years old, A. By Jas. N. Vander Veer, M. D.,
and Charles P. McCabe, M. D. 212
- Liver, Chronic passive congestion of. 294
- Mac Farlane, Andrew, M. D. The diagnostic house. 584
- The functions of a county medical society. 403
- Mason, W. P., M. D. The Maidstone typhoid epidemic. 13
- Matteawan State Hospital. 168
- Measles, The effect of on psoriasis. 397
- Medical library for Schenectady. 557
- Review of Reviews.* 168
- Society: See also under local titles such as "Saratoga," etc.
- of the County of Albany. 383, 433, 495
- Columbia 660
- Montgomery. 226
- Rensselaer. 36
- Schenectady 36, 107, 168, 226, 277, 332, 620, 661
- of the State of New York. 107, 167, 333, 508, 557
- Third District Branch. 509, 553, 619
- Medicine, On specialization in. By A. Stuart Chisholm, M. D. 125
- Melancholia, The lactic acid bacillus and. 603
- Mental Case, The Problem of the Acute. By J. Montgomery Mosher,
M. D. 638
- Mitchell, J. H., M. D. Injuries to the patella with their surgical
treatment. 19
- Monroe County Board of Supervisors. 37
- Mosher, J. Montgomery, M. D. Albany Hospital: Eighth Annual
report of Pavilion F. 590
- Puerperal insanity 84
- The Problem of the Acute Mental Case. 638
- Myers, Victor C., Ph. D. The detection of reducing sugars. 162
- Toxaemias of intestinal origin. 5
- National Association for the Study and Education of Exceptional
Children. 279
- Housing Association 620
- New York and New England Association of Railway Surgeons. 621, 660
- Skin and Cancer Hospital. 619
- State Department of Health: See State.
- Œsophageal: See Esophageal.
- Omentum, The: Its anatomy, histology, etc. 62
- Ordway, Thomas, M. D. Limitations of laboratory diagnosis. 522
- Otitis media, Acute suppurative. By Arthur H. Brownell, M. D. 196
- Paralysis, Infantile: See also Poliomyelitis. 489
- Patella, Injuries to the with their surgical treatment. By J. H.
Mitchell, M. D. 196
- PERSONALS:
- Beilby, Dr. George Everett. 169
- Beiermeister, Dr. John F. 622
- Bell, Dr. Edward Moses. 665

PERSONALS—*Continued*

Bellin, Dr. Morris.....	37
Bender, Dr. John A.....	559
Bernstein, Dr. Charles	664
Bibby, Dr. Fred N.....	559
Bing, Dr. Arthur.....	170
Branch, Dr. George L.....	335
Burdick, Dr. Lewis W.....	558
Burns, Dr. John W.....	334
Carney, Dr. Thomas	665
Classen, Dr. Frederick L.....	282
Clowe, Dr. Charles F.....	37
Cochrane, Dr. Harold D.....	509
Collie, Dr. Roy Monroe.....	335
Conger, Dr. William H.....	622
Cox, Dr. Hugh M.....	170
Cox, Dr. Joseph A.....	665
Cronin, Dr. Marcus D.....	509
Davis, Dr. Charles E.....	558
Davis, Dr. Joseph.....	283, 558
Dawes, Dr. Spencer L.....	623
Dingman, Dr. John H.....	622
Donohue, Dr. Edward D.....	283, 558
Douglas, Dr. Malcolm.....	108
Drake, Dr. Harry H.....	283, 558
Druce, Dr. Orla A.....	283, 510, 622
Duffy, Dr. George W.....	558
Egerton, Dr. Wakeman C.....	665
Faber, Dr. James P.....	558
Faber, Dr. John Peter.....	170, 283
Gaus, Dr. Louis H.....	558
Gillen, Dr. Henry B.....	622
Goering, Dr. George R.....	283
Graham, Dr. Walter L.....	622
Griffin, Dr. Gerald.....	622, 665
Grogan, Dr. Henry M.....	665
Hacker, Dr. Christian G.....	282, 558
Hagedorn, Dr. Arthur C.....	622
Hagedorn, Dr. Edward F.....	622
Haswell, Dr. Eddy S.....	558, 623
Heath, Dr. Harley.....	510
Heffernan, Dr. John F.....	228
Herrick, Dr. Clinton B.....	558
Hinman, Dr. Eugene E.....	334, 665
Hirst, Dr. Patrick J.....	558
Holding, Dr. Arthur C.....	622
Howd, Dr. Emmett.....	665
Hun, Dr. Henry.....	622
Jansen, Dr. Frederick J.....	108, 622

PERSONALS—*Continued*

Jenkins, Dr. Thomas W.....	282
Keigher, Dr. Roy C.....	665
Kellert, Dr. Ellis.....	510
Kemp, Dr. Samuel O.....	558
Krieger, Dr. William A.....	
Larson, Dr. O. F.....	37
Le Brun, Dr. Louis.....	277
Lundblad, Dr. Walter E.....	558
Lyons, Dr. J. A.....	228, 283
Macdonald, Dr. Willis G.....	108
Mac Farlane, Dr. Andrew.....	108
McGilbert, Dr. Archibald.....	334
McGillian, Dr. Eugene F.....	622, 665
McSorley, Dr. Frederick W.....	558
Merrill, Dr. Cyrus S.....	622
Meyers, Dr. Jerome.....	558
Miller, Dr. Samuel David.....	665
Moston, Dr. George T.....	558
Munson, Dr. William L.....	108
Myers, Dr. Charles L.....	334
Newcomb, Dr. John S.....	664
Noonan, Dr. Frank J.....	665
O'Leary, Dr. Daniel V.....	282
Pitts, Dr. Albert Emerson.....	559
Reynolds, Dr. Walter A.....	108, 665
Rider, Dr. E. Hudson.....	334
Roy, Dr. Bert W.....	37
Rulison, Dr. Harry.....	170, 283, 558, 665
Ryan, Dr. Thomas.....	509
Sadlier, Dr. James E.....	664
Schaible, Dr. Frank G.....	228
Selkin, Dr. Saul C.....	665
Shaw, Dr. H. L. K.....	108, 334
Slater, Dr. Charles E.....	510
Stillman, Dr. William O.....	622
Strong, Dr. Sylvester E.....	623
Strope, Dr. Morris H.....	622
Thornton, Dr. Michael J.....	509
Tilden, Dr. George.....	622
Tracey, Dr. Chester E. H.....	622
Traver, Dr. Alvah H.....	227
Treder, Dr. William C.....	228, 335
Vander Veer, Dr. Albert. . .	227
Vander Veer, Dr. Edgar A. . .	170
Vander Veer, Dr. James N.....	170, 665
Wansbury, Dr. Michael F.....	622
Warner, Dr. George Van V.....	622, 665
Waterbury, Dr. Roscoe C.....	228

PERSONALS—*Continued*

Waterbury, Dr. Walter H.....	283
Wells, Dr. Lucien E.....	509
Whipple, Dr. Edward D.....	509
Windbiel, Dr. Joseph E.....	558
Witbeck, Dr. Charles L.....	228
Witter, Dr. Calvin B.....	623
York, Dr. James J.....	622
Phthaleins, The pharmacological action of some.....	401
Platner, W. B., M. D. Biographical sketch of Rensselaer Platner, M. D.	109
Poliomyelitis.	556
Anterior, and its treatment by muscle training. By John M. Berry, M. D., and Miss Bertha Van Denbergh.....	207
Practical Treatment	664
Provident Savings Life Assurance Society, The.....	108
Public Health—Laboratory Courses	660
Puerperal eclampsia, Treatment of. By J. L. Archambault, M. D....	68
insanity. By J. Montgomery Mosher, M. D.....	88
Rabies.	534
Radiotherapy. By H. W. Van Allen, M. D.....	151
Rat leprosy, Experiments on vaccination against.....	293
Renal pelvis, Postural treatment and lavage of the.....	326
Rockefeller Institute for Medical Research, The.....	619
Root, Arthur G., M. D. Address of welcome, Alumni Association..	350
Ross, George W., M. D. A case of traumatic oesophageal stricture in a two-year-old child.....	27
Rossmann, Clark C., M. D. State ownership of the headwaters.....	16
Saratoga Cure and Infirmary.....	557
Sarcoma of the femur, Congenital.....	551
Saunders Company, The W. B.....	224
Scarlet fever and diphtheria, Antistreptococcic serum in.....	401
The treatment of.....	399
Skull, The	224, 227, 333
Spinal Anaesthesia	671
Stanton, E. MacD., M. D. A critical analysis of a series of 180 cases of acute intraperitoneal infections.....	233
State Department of Health.....	277, 333, 619
Examining Boards, National Confederation of.....	332
Hospital for the Care of Crippled and Deformed Children....	224
ownership of the headwaters. By Clark C. Rossmann, M. D....	16
Training School for Girls, New York.....	277
Stomach, The experimental pathology of the. By Prof. Dr. Otto Conheim.	511
St. Peter's Hospital	224, 660
Strophanthia, A clinical study of crystalline.....	680
Sugars, The detection of reducing. By Victor C. Myers, Ph. D....	162
Syphilis, Placental	60
Recent investigations of the cause of.....	396
The serum diagnosis of. By Harry S. Bernstein, M. D.....	529

Syphlogenous diseases, Recent methods for the diagnosis of.....	115
Temperature of the body, The normal.....	55
Tetany in early infancy, A case of chronic.....	631
Thrombosis after gynecological operations and during the puerperium.	61
Towne, G. S., M. D. Report of a case of hemophilia.....	321
Toxaemias of intestinal origin. By Victor C. Myers, Ph. D.....	5
Traver, Alvah H., M. D. Local anaesthesia.....	305
Tubercle bacilli in sputum, New methods for concentrating. By Arthur T. Laird, M. D.....	538, 605
Tuberculin for diagnostic purposes, The intracutaneous use of.....	446
test as applied to a city's milk supply, Preliminary report on. By George W. Goler, M. D.....	63
The Pirquet cutaneous test.....	54
Tuberculose, über die Eingangsporten der menschlichen. By Hans Chiari. . .	635
Tuberculosis:	
Conference on the local committee for the prevention of.....	225
Heredo-. By J. L. Archambault, M. D.....	1
Hospital in Monroe County.....	37
in children	629
of the breast, The pathology of. By Charles Greene Cumston, M. D.	295
of the lungs, Hemoptysis as an early symptom of.....	443
Pavilion, The Albany Hospital.....	277
Pavilions, The Albany Hospital.....	103
Pulmonary, Some points on the early diagnosis of. By A. H. Garvin, M. D.....	449
The clinical significance of subfebrile temperature in. By Arthur T. Laird, M. D.....	311
Regarding immunity to.....	183
Regarding the disinfection of dwellings in.....	444
Sanatoria, A list of.....	108
The Committee on the prevention of.....	661
The early recognition of lung, with the aid of the x-ray.....	185
The Henry Phipps Institute for the Study, Prevention and Treat- ment of. By Arthur T. Laird, M. D.....	159, 557
The Metropolitan Life Insurance Company's booklet.....	557
The National Association for the Study and Prevention of....	226
Tuberculous adenitis, The treatment of with the x-rays. By Arthur F. Holding, M. D.....	140
meningitis, The occurrence of remissions and recovery in.....	114
Tucker, Willis G., M. D. Faraday: His life and work.....	341, 412
Typhoid epidemic, The Maidstone. By W. P. Mason, M. D.....	13
Union College	334
Alumni Association of Northeastern New York, The.....	167
United States Civil Service Commission, The.....	619
The. . .	332
United States Pharmacopœia: A study in genealogy. By Spencer L. Dawes, M. D.....	30

United States Pharmacopœial Convention. Board of Trustees.....	169
Committee on Credentials.....	278
University Day Program.....	619
of Pennsylvania, The.....	554
Uterine tumor, The rational treatment of so-called inoperative. By Walter B. Chase, M. D.....	246
Van Allen, H. W., M. D. Radiotherapy.....	151
Van Denbergh, Miss Bertha, and John M. Berry, M. D. Anterior poliomyelitis and its treatment by muscle training.....	207
Vander Veer, James N., M. D. A lithopedian, thirty-five years old..	212
Varicose veins, Intravenous treatment of.....	398
Voorhes, Sheldon, M. D. President's address.....	353
Waller, Percy G., M. D. Fatal esophageal hemorrhage eight days after swallowing foreign body.....	
Wose, A. M., M. D. Biographical sketch of Ely Van de Warker, M. D.	560
X-Rays, The early recognition of lung tuberculosis with the aid of..	185
The treatment of tuberculous adenitis with the.....	140
Yale Medical School.....	557

ILLUSTRATIONS

Traumatic Oesophageal Stricture in a Two-Year-Old Child.....	
	facing page 28
Portrait of Robert Eleazer Ensign, M. D.....	facing page 38
Epiphyseal Fracture of Upper End of Humerus.....	facing page 136
Epiphyseal Fracture of Upper End of Humerus.....	page 137
Epiphyseal Fracture of Upper End of Humerus.....	page 138
Illustrating Radiotherapy	page 155
Illustrating Radiotherapy	facing page 156
Portrait of Alvin H. Eccleston, M. D.....	facing page 170
Illustrating Muscle Training in Anterior Poliomyelitis;	
Plate I.....	facing page 208
Plate II.....	facing page 208
Plate III.....	facing page 208
A Lithopedian Thirty-five Years Old; Front View.....	facing page 212
Left Side.....	facing page 214
Portrait of George A. Bradbury, M. D.....	facing page 284

CONTRIBUTORS

TO

ALBANY MEDICAL ANNALS, VOLUME XXXI

- | | |
|---|--|
| <p>J. L. Archambault, M. D., Cohoes,
N. Y.</p> <p>La Salle Archambault, M. D., Al-
bany, N. Y.</p> <p>Robert Babcock, M. D., Albany,
N. Y.</p> <p>Arthur J. Bedell, M. D., Albany,
N. Y.</p> <p>George E. Beilby, M. D., Albany,
N. Y.</p> <p>Harry Bernstein, M. D., Albany,
N. Y.</p> <p>John M. Berry, M. D., Troy, N. Y.</p> <p>Le Roy Blatner, D. D. S., Albany,
N. Y.</p> <p>G. Alder Blumer, M. D., Providence,
R. I.</p> <p>George Blumer, M. D., New Haven,
Conn.</p> <p>Arthur H. Brownell, M. D., One-
onta, N. Y.</p> <p>Harry W. Carey, Troy, N. Y.</p> <p>Daniel C. Case, M. D., Slingerlands,
N. Y.</p> <p>Walter B. Chase, M. D., Brooklyn,
N. Y.</p> <p>Hans Chiari, Strassburg, Germany.</p> <p>A. Stuart Chisholm, M. D., Ben-
nington, Vt.</p> <p>Harold D. Cochrane, M. D., Albany,
N. Y.</p> <p>Edward V. Colbert, M. D., Albany,
N. Y.</p> <p>Prof. Dr. Otto Conheim, Heidel-
berg, Germany.</p> | <p>Joseph D. Craig, M. D., Albany,
N. Y.</p> <p>Thos. D. Crothers, M. D., Hartford,
Conn.</p> <p>Charles M. Culver, M. D., Albany,
N. Y.</p> <p>Charles Greene Cumston, M. D.,
Boston, Mass.</p> <p>Frederic C. Curtis, M. D., Albany,
N. Y.</p> <p>Spencer L. Dawes, M. D., Albany,
N. Y.</p> <p>Robert E. Doran, M. D., Willard,
N. Y.</p> <p>Robert Lincoln Ellithorp, M. D.,
Gloversdale, N. Y.</p> <p>Arthur W. Elting, M. D., Albany,
N. Y.</p> <p>Albert H. Garvin, M. D., Raybrook,
N. Y.</p> <p>Reid Gilmore, M. D., Schenectady,
N. Y.</p> <p>George W. Goler, M. D. Rochester,
N. Y.</p> <p>George E. Gorham, M. D., Albany,
N. Y.</p> <p>Donald Guthrie, M. D., Sayre, N. Y.</p> <p>Christian G. Hacker, M. D., Albany,
N. Y.</p> <p>Paul T. Harper, M. D., Albany,
N. Y.</p> <p>Clinton Bradford Herrick, Troy,
N. Y.</p> |
|---|--|

CONTRIBUTORS TO VOLUME XXXI

Arthur T. Holding, M. D., Albany,
N. Y.

Henry Hun, M. D., Albany, N. Y.

H. M. Imboden, M. D., Clifton
Springs, N. Y.

Mr. Arthur H. Krida, Albany Medi-
cal College.

Arthur T. Laird, M. D., Albany,
N. Y.

Maurice J. Lewi, M. D., New York
City, N. Y.

William G. Lewi, M. D., Albany,
N. Y.

H. Judson Lipes, M. D., Albany,
N. Y.

H. E. Lomax, M. D., Albany, N. Y.

Andrew Mac Farlane, M. D., Al-
bany, N. Y.

W. P. Mason, M. D., Troy, N. Y.

Charles P. McCabe, M. D., Green-
ville, N. Y.

Jas. H. Mitchell, M. D., Cohoes,
N. Y.

J. Montgomery Mosher, M. D., Al-
bany, N. Y.

Thomas Ordway, M. D., Albany,
N. Y.

W. B. Platner, M. D., Germantown,
N. Y.

J. Wilson Poucher, M. D., Pough-
keepsie, N. Y.

Arthur G. Root, M. D., Albany,
N. Y.

George W. Ross, M. D., Port Ewen,
N. Y.

Clark G. Rossman, M. D., Hudson,
N. Y.

J. A. Sampson, M. D., Albany, N. Y.

Harry L. K. Shaw, M. D., Albany,
N. Y.

E. MacD. Stanton, M. D., Schenec-
tady, N. Y.

Clement F. Theisen, M. D., Albany,
N. Y.

G. S. Towne, M. D., Saratoga
Springs, N. Y.

A. H. Traver, M. D., Albany, N. Y.

Willis G. Tucker, M. D., Albany,
N. Y.

H. W. Van Allen, M. D., Spring-
field, Mass.

Miss Bertha Van Denbergh, Troy,
N. Y.

James N. Vander Veer, M. D., Al-
bany, N. Y.

Sheldon Voorhees, M. D., Auburn,
N. Y.

Percy G. Waller, M. D., New Balti-
more, N. Y.

Samuel B. Ward, M. D., Albany,
N. Y.

Charles K. Winne, Jr., M. D., Al-
bany, N. Y.

S. B. Wolbach, M. D., Montreal,
Canada.

A. M. Wose, M. D., Syracuse, N. Y.

Water-damaged August 1978.

Frozen and vacuum freeze-dried 1979.

38107

This Book is due on the last date stamped below. No further preliminary notice will be sent. Requests for renewals must be made on or before the date of expiration.

DUE

JAN 20 1936

RETURNED

JAN 18 1936

A fine of twenty-five cents will be charged for each week or fraction of a week the book is retained without the Library's authorization.

